

DESERT CLAIM WIND POWER LLC.

DESERT CLAIM WIND POWER PROJECT WETLAND DELINEATION AND ANALYSIS REPORT

APPENDIX C: WETLAND RATING FORMS

Wetland name or number First Ck

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): First Ck; EDF Date of site visit: 7/6; 9/20/17
Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☒ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	7	8	21

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

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Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	3
Hydroperiods	H 1.2, H 1.3	3
Ponded depressions	R 1.1	3
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	3
Map of the contributing basin	R 2.2, R 2.3, R 5.2	4
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	3
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

✓ The wetland is on a slope (*slope can be very gradual*),
✓ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

✓ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
✓ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number First Ck

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number First Ck

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☐ points = 10

If the ratio is 1-2

☒ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

8

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☒ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☐ points = 0

4

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


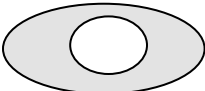
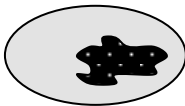
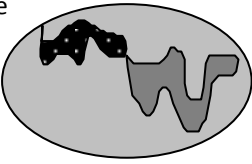
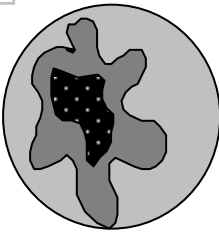
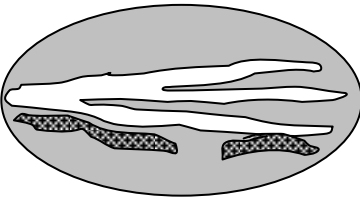
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		2
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 3

Wetland name or number First Ck

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	13

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>44</u> = <u>44</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number N2

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): N2/EDF Date of site visit: 7/6; 11/1/17
Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	5
Hydroperiods	H 1.2, H 1.3	5
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	5
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	5
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46/
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number N2

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☒ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☐ points = 0

3

Total for S 1

Add the points in the boxes above

4

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number N2

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


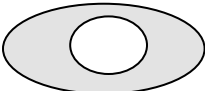
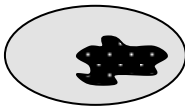
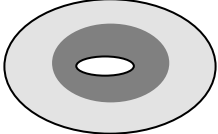
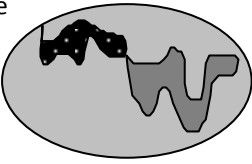
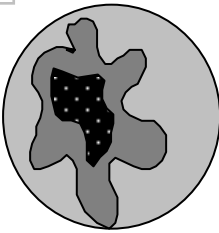
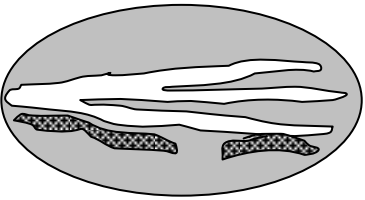
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div> <p>High = 3 points <input type="checkbox"/></p>		Figure__ 1

Wetland name or number N2

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ___ Cattails or bulrushes are present within the wetland. ___ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity ✓ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R0

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R0/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	5	7	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Wetland name or number R0

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	6
Hydroperiods	H 1.2, H 1.3	6
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	6
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	6
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	6
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R0

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Reecer Creek Road

☒ Yes = 1 ☐ No = 0

1

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle☒ Yes = 1 ☐ No = 0

1

Total for S 2

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?☒ Yes = 1 ☐ No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*☒ Yes = 1 ☐ No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?☒ Yes = 2 ☐ No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R0

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Reecer Creek Road		Yes = 1 No = 0 1

Rating of Landscape Potential If score is: ☒ 1 = M ☐ 0 = L




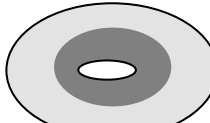

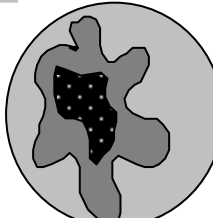
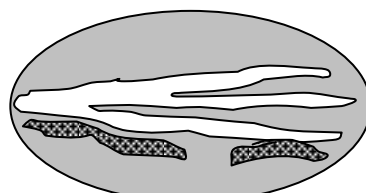
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		points = 2 points = 1 points = 0 1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?		Yes = 2 No = 0 0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community:</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p>4 or more checks: points = 3</p> <p>3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		2
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: <u>> 9 species: points = 2</u></p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</p> <div><div><p>None = 0 points <input type="checkbox"/></p></div><div><p>Low = 1 point <input type="checkbox"/></p></div><div><p>Moderate = 2 points <input checked="" type="checkbox"/></p></div><div></div></div> <p>All three diagrams in this row are</p> <div><p>High = 3 points <input type="checkbox"/></p></div> <div></div> <div><p>Riparian braided channels with 2 classes</p></div>		Figure__ 2

Wetland name or number R0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ___ Cattails or bulrushes are present within the wetland. ___ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity ✓ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>20</u> = <u>20</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R1

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R1; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	7	8	21

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	7
Hydroperiods	H 1.2, H 1.3	7
Ponded depressions	R 1.1	7
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	7
Map of the contributing basin	R 2.2, R 2.3, R 5.2	8
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	7
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	7
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R1

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R1

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☒ points = 2

Plants do not meet above criteria

☐ points = 0

2

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


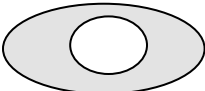
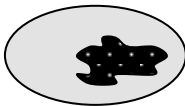
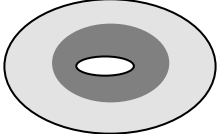
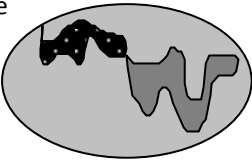
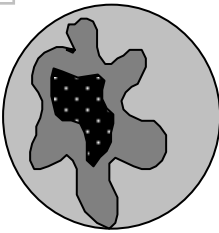
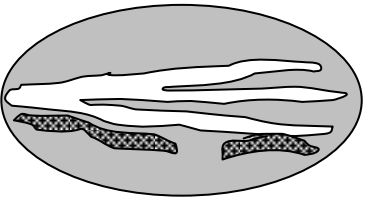
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		2
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

Wetland name or number R1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	12

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>23</u> = <u>23</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>43</u> = <u>43</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	7

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R101

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R101; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	30
Hydroperiods	H 1.2, H 1.3	30
Ponded depressions	R 1.1	30
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	30
Map of the contributing basin	R 2.2, R 2.3, R 5.2	31
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	30
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	30
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R101

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R101

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


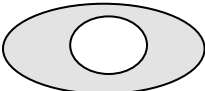
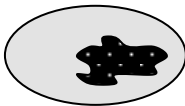
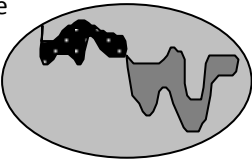
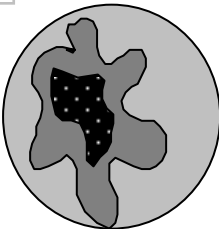
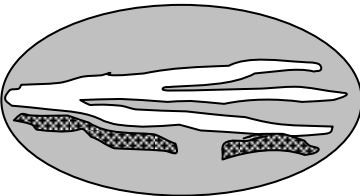
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
H 1.4. <u>Richness of plant species</u>		
<p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
H 1.5. <u>Interspersion of habitats</u>		
<p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

Wetland name or number R101

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R104

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R104; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	32
Hydroperiods	H 1.2, H 1.3	32
Ponded depressions	R 1.1	32
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	32
Map of the contributing basin	R 2.2, R 2.3, R 5.2	33
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	32
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	32
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R104

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**Yes = 0 **No = 1**

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?Yes = 1 **No = 0**

0

R 5.3. Is the up-gradient stream or river controlled by dams?Yes = 0 **No = 1**

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?Yes = 2 **No = 0**

0


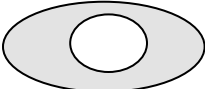
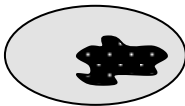
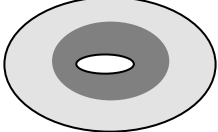
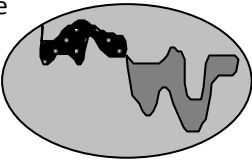
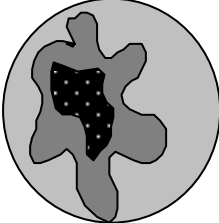
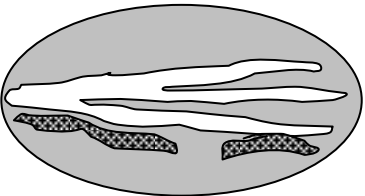
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__

Wetland name or number R104

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R106

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R106/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	32
Hydroperiods	H 1.2, H 1.3	32
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	32
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	32
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	32
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R106

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


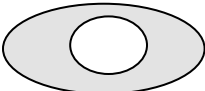
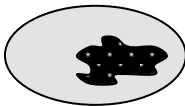
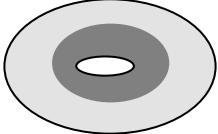
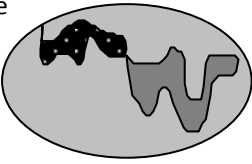
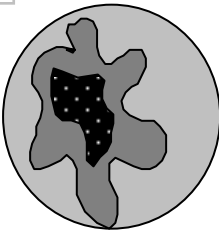
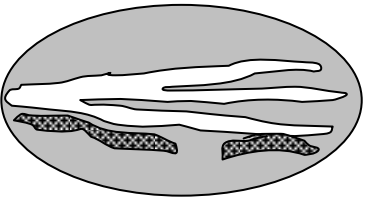
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R108

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R108; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	32
Hydroperiods	H 1.2, H 1.3	32
Ponded depressions	R 1.1	32
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	32
Map of the contributing basin	R 2.2, R 2.3, R 5.2	33
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	32
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	32
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R108

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R108

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**Yes = 0 **No = 1**

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?Yes = 1 **No = 0**

0

R 5.3. Is the up-gradient stream or river controlled by dams?Yes = 0 **No = 1**

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?Yes = 2 **No = 0**

0


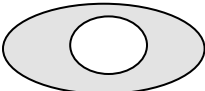
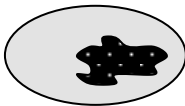
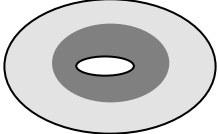
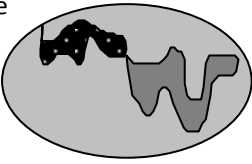
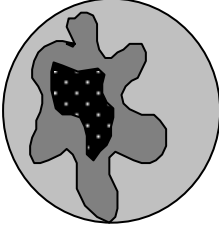
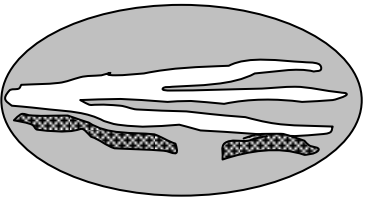
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)		
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat				
H 1.0. Does the wetland have the potential to provide habitat for many species?				
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0			
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 <u>No = 0</u>	0		
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>			0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 <u>4-9 species: points = 1</u> < 4 species: points = 0</p>			1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>			Figure__ 0	

Wetland name or number R108

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R109

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R109/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	34
Hydroperiods	H 1.2, H 1.3	34
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	34
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	34
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R109

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


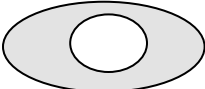
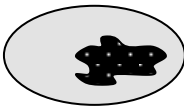
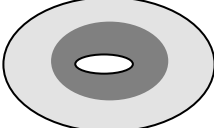
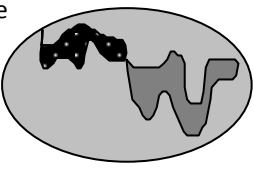
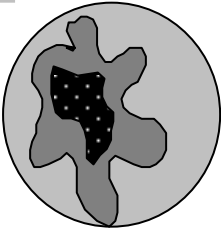
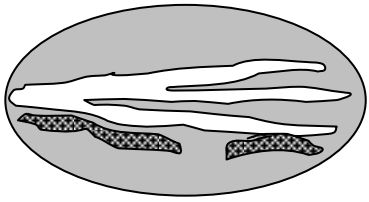
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

Wetland name or number R109

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R112

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R112/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	34
Hydroperiods	H 1.2, H 1.3	34
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	34
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	34
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R112

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R112

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1

No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2

No = 0

0

Total for S 6


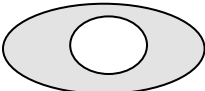
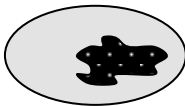
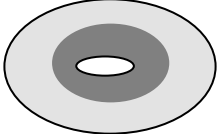
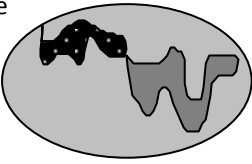
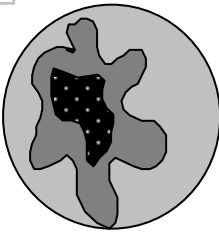
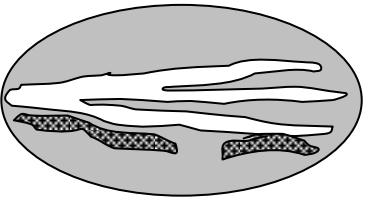
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

Wetland name or number R112

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R113

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R113; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	32
Hydroperiods	H 1.2, H 1.3	32
Ponded depressions	R 1.1	32
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	32
Map of the contributing basin	R 2.2, R 2.3, R 5.2	35
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	32
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	32
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R113

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R113

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


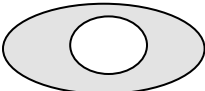
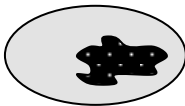
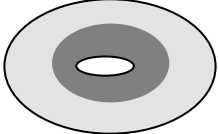
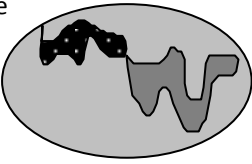
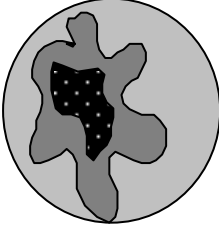
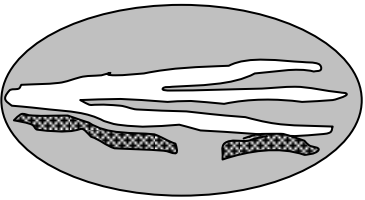
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 0	

Wetland name or number R113

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1		Add the points in the boxes above 6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2		Add the points in the boxes above 6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics <i>Choose the highest rating if wetland falls into several categories</i> If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R115

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R115; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	36
Hydroperiods	H 1.2, H 1.3	36
Ponded depressions	R 1.1	36
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	36
Map of the contributing basin	R 2.2, R 2.3, R 5.2	35
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	36
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	36
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R115

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R115

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


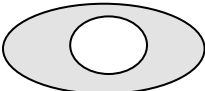
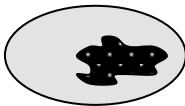
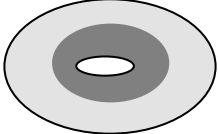
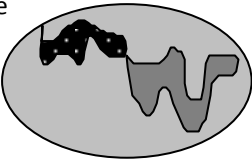
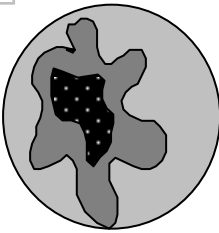
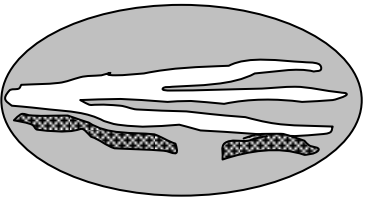
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

Wetland name or number R115

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1		Add the points in the boxes above 6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2		Add the points in the boxes above 6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R116

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R116/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	36
Hydroperiods	H 1.2, H 1.3	36
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	36
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	36
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	36
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R116

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R116

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for S 6


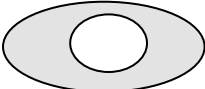
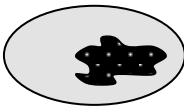
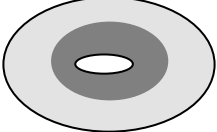
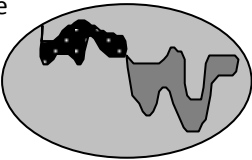
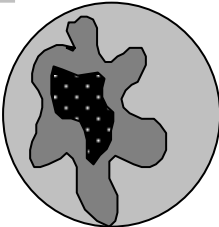
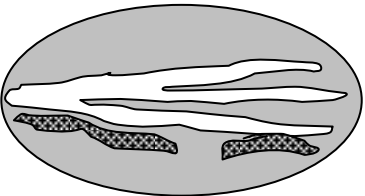
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

Wetland name or number R116

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>47</u> = <u>47</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R117

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R117/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	34
Hydroperiods	H 1.2, H 1.3	34
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	34
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	34
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO - go to 2 ☐ YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES - The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES - The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO - go to 5 ☐ YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R117

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**

S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?

S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?

Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R117

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


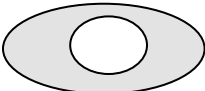
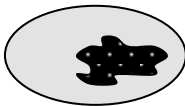
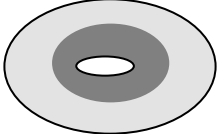
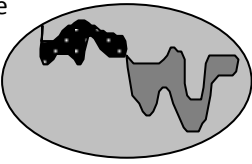
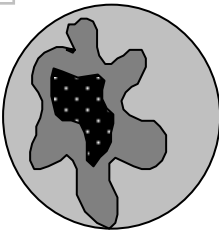
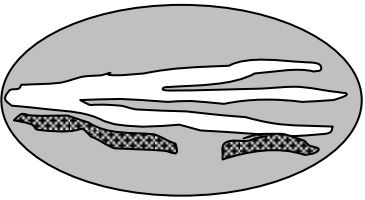
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

Wetland name or number R117

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R129

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R129/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	37
Hydroperiods	H 1.2, H 1.3	37
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	37
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	37
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R129

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


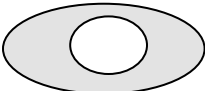
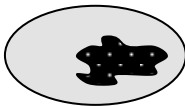
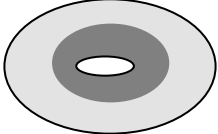
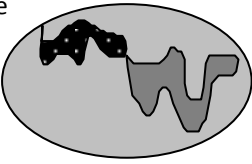
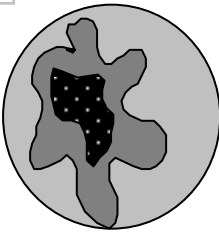
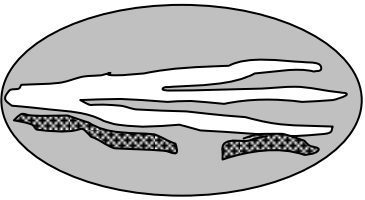
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R131

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R131/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	37
Hydroperiods	H 1.2, H 1.3	37
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	37
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	37
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R131

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R131

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


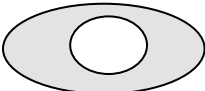
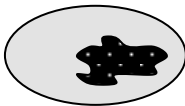
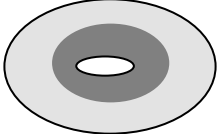
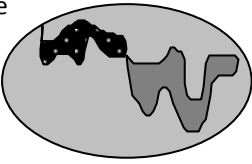
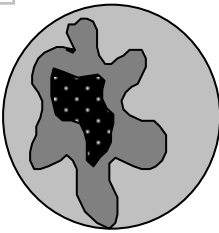
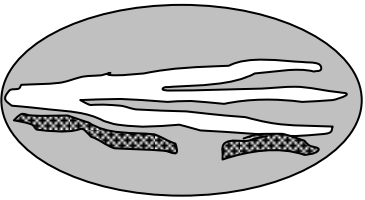
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

<p>H 1.6. <u>Special habitat features</u> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream.</p> <p><input type="checkbox"/> Cattails or bulrushes are present within the wetland.</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.</p> <p><input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded.</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity</p> <p><input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)</p>	2
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">3</p>

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
<p>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0</p>	3	
<p>H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0</p>	2	
<p>H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0</p>	0	
<p>H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0</p>	0	
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">5</p>	

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score that applies to the wetland being rated</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <p>Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	1	

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R133

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R133/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	37
Hydroperiods	H 1.2, H 1.3	37
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	37
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	37
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R133

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R133

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


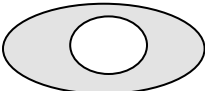
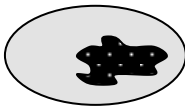
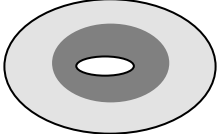
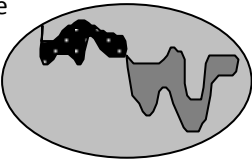
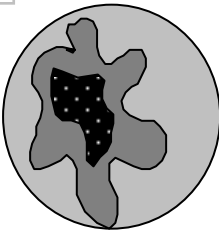
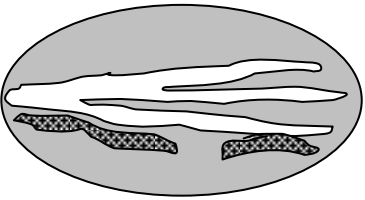
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6	Add the points in the boxes above	1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R135

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R135; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	30
Hydroperiods	H 1.2, H 1.3	30
Ponded depressions	R 1.1	30
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	30
Map of the contributing basin	R 2.2, R 2.3, R 5.2	31
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	30
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	30
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R135

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R135

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


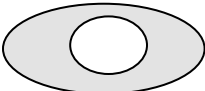
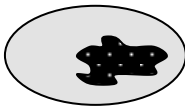
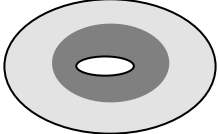
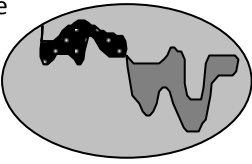
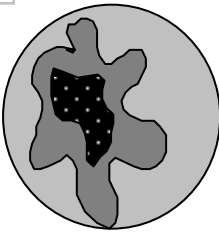
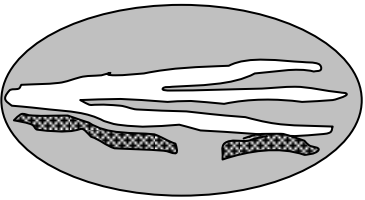
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

Wetland name or number R135

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R137

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R137; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	30
Hydroperiods	H 1.2, H 1.3	30
Ponded depressions	R 1.1	30
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	30
Map of the contributing basin	R 2.2, R 2.3, R 5.2	31
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	30
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	30
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R137

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R137

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than 2/3 the area of the wetland

☐ points = 6

Forest or shrub for >1/3 area OR emergent plants > 2/3 area

☐ points = 4

Forest or shrub for > 1/10 area OR emergent plants > 1/3 area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


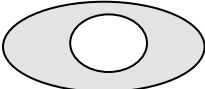
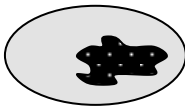
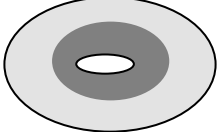
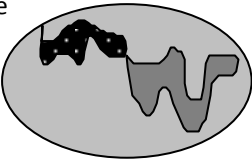
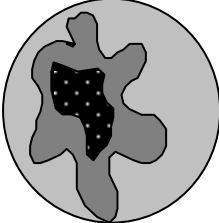
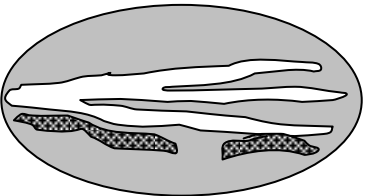
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__
		0

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H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R139

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R139; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	7	19

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	38
Hydroperiods	H 1.2, H 1.3	38
Ponded depressions	R 1.1	38
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	38
Map of the contributing basin	R 2.2, R 2.3, R 5.2	39
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	38
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	38
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R139

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R139

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <u>Answer YES if there is a TMDL for the drainage in which wetland is found.</u>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


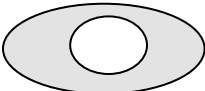
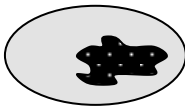
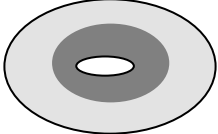
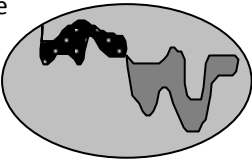
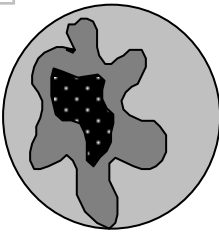
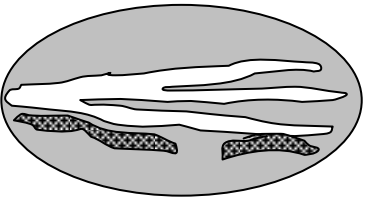
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3	
Total for H 1		Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>5</u> + [(% moderate and low intensity land uses)/2] <u>47</u> = <u>52</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>5</u> + [(% moderate and low intensity land uses)/2] <u>47</u> = <u>52</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3	
Total for H 2		Add the points in the boxes above	9

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p style="text-align: right;"><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p style="text-align: right;"><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p style="text-align: center;">NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R154

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R154/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	5	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	22
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	22
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	22
Map of the contributing basin	D 5.3	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R154

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 5
 Wetland has an intermittently flowing outlet ☐ points = 3
 Wetland has a highly constricted permanently flowing outlet ☐ points = 3
 Wetland has a permanently flowing, unconstricted, surface outlet ☐ points = 1

5

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)

- Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area ☐ points = 5
 Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area ☐ points = 3
 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area ☐ points = 1
 Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area ☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*

- Area seasonally ponded is $> \frac{1}{2}$ total area of wetland ☐ points = 3
 Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland ☒ points = 1
 Area seasonally ponded is $< \frac{1}{4}$ total area of wetland ☐ points = 0

1

Total for D 1

Add the points in the boxes above

6

Rating of Site Potential If score is: ☐ 12- 16 = H ☒ 6- 11 = M ☐ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions

D 2.1- D 2.3? Source Cattle Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 8
- Wetland has an intermittently flowing outlet ☐ points = 4
- Wetland has a highly constricted permanently flowing outlet ☐ points = 4
- Wetland has a permanently flowing unconfined surface outlet ☐ points = 0
- (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

8

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).

- Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8
- Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6
- The wetland is a headwater wetland ☐ points = 4
- Seasonal ponding: 1 ft - < 2 ft ☐ points = 4
- Seasonal ponding: 6 in - < 1 ft ☐ points = 2
- Seasonal ponding: < 6 in or wetland has only saturated soils ☒ points = 0

0

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

- D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0 0
- D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? Yes = 1 No = 0 0
- D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses? Yes = 1 No = 0 0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. *Do not add points. Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

- Flooding occurs in sub-basin that is immediately down-gradient of wetland ☐ points = 2
- Surface flooding problems are in a sub-basin farther down-gradient ☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____ ☐ points = 0

There are no problems with flooding downstream of the wetland ☐ points = 0

- D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 0


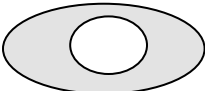
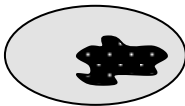
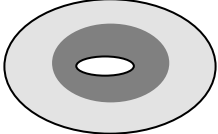
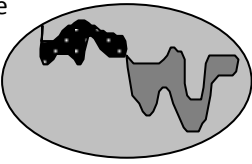
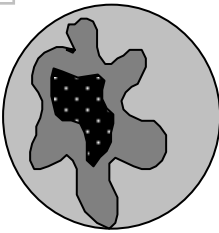
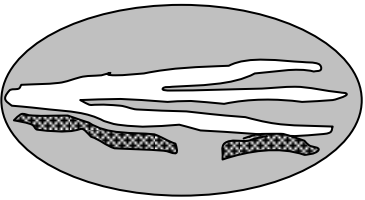
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input checked="" type="checkbox"/> Yes = 3 points & go to H 1.4 <input type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: <u>> 9 species: points = 2</u> 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

Wetland name or number R154

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1		Add the points in the boxes above 5

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2		Add the points in the boxes above 5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R169

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R169; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	8	20

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	16
Hydroperiods	H 1.2, H 1.3	16
Ponded depressions	R 1.1	16
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	16
Map of the contributing basin	R 2.2, R 2.3, R 5.2	19
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	16
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	16
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R169

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R169

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input checked="" type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 0	2	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☐ points = 10

If the ratio is 1-2

☒ points = 8If the ratio is $\frac{1}{2}$ -<1☐ points = 4If the ratio is $\frac{1}{4}$ -< $\frac{1}{2}$ ☐ points = 2If the ratio is < $\frac{1}{4}$ ☐ points = 1

8

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☒ points = 2

Plants do not meet above criteria

☐ points = 0

2

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

0

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


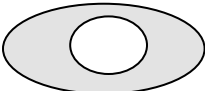
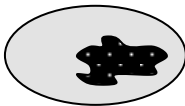
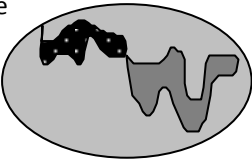
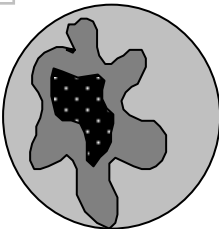
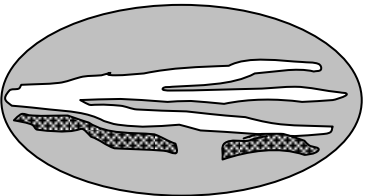
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

Wetland name or number R169

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3	
Total for H 1		Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>37</u> = <u>37</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R173

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R173/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	9
Hydroperiods	H 1.2, H 1.3	9
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	9
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	9
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	9
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R173

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R173

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


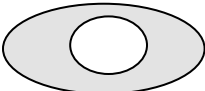
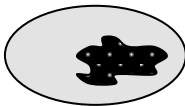
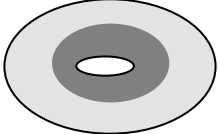
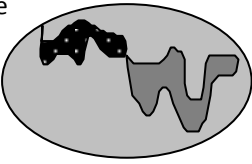
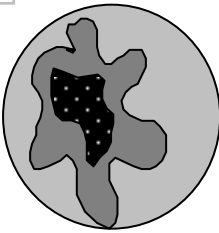
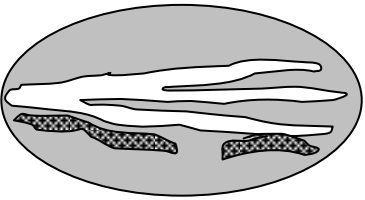
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div> <p>High = 3 points <input type="checkbox"/></p>		Figure__ 0

Wetland name or number R173

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>33</u> = <u>33</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>47</u> = <u>47</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R18

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R18/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☒ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	5	15

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	10
Hydroperiods	H 1.2, H 1.3	10
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	10
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46/
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R18

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


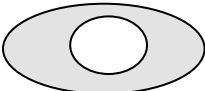
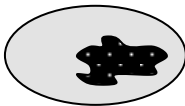
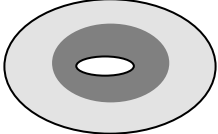
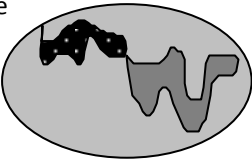
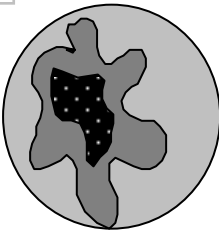
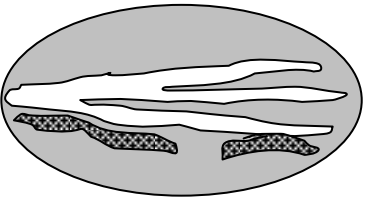
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>points = 2</u> Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above <u>points = 0</u>		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0
Total for H 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) <u>points = 1</u> Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R19

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R19; EDF Date of site visit: 11/29/17
Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☒ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	7	7	20

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	11
Hydroperiods	H 1.2, H 1.3	11
Ponded depressions	R 1.1	11
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	11
Map of the contributing basin	R 2.2, R 2.3, R 5.2	12
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	11
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	11
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R19

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R19

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input checked="" type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 0	2	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☒ points = 2

Plants do not meet above criteria

☐ points = 0

2

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


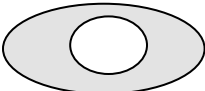
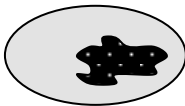
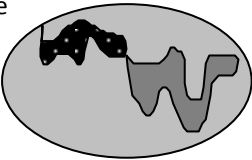
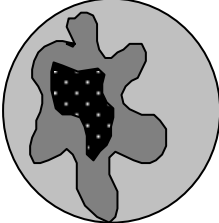
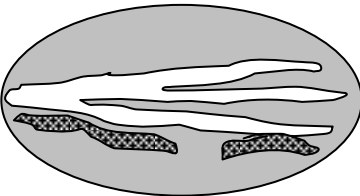
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	2	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
H 1.4. <u>Richness of plant species</u>		
<p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
H 1.5. <u>Interspersion of habitats</u>		
<p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	10

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>43</u> = <u>43</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p style="text-align: right;"><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p style="text-align: right;"><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p style="text-align: center;">NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R20

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R20/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☒ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	5	15

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	10
Hydroperiods	H 1.2, H 1.3	10
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	10
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R20

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L




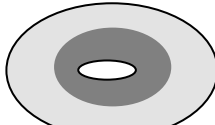

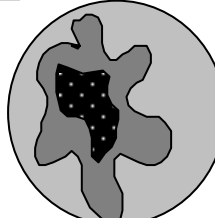
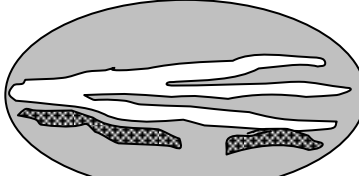
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
H 1.1. Structure of the plant community: Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac. <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover <input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover <input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover) <input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover) 4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 00
H 1.3. Surface water H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2 H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0		0
H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk) # of species _____ Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0		1
H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none. Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high. <div> None = 0 points <input checked="" type="checkbox"/></div> <div> Low = 1 point <input type="checkbox"/></div> <div> Moderate = 2 points <input type="checkbox"/></div> <div></div> <div></div> <div></div> <div></div> <div>Riparian braided channels with 2 classes</div> All three diagrams in this row are High = 3 points <input type="checkbox"/>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R22

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R22/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☒ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	5	15

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	10
Hydroperiods	H 1.2, H 1.3	10
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	10
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R22

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


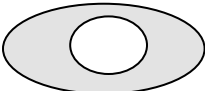
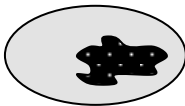
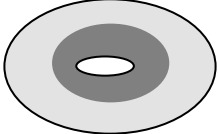
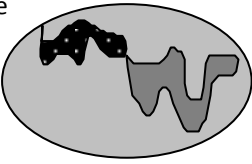
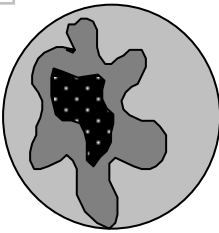
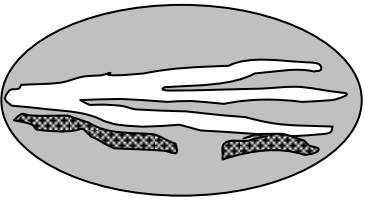
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>points = 2</u> Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above <u>points = 0</u>		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0	
Total for H 2		Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) <u>points = 1</u> Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R23

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R23; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	7	8	21

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	11
Hydroperiods	H 1.2, H 1.3	11
Ponded depressions	R 1.1	11
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	11
Map of the contributing basin	R 2.2, R 2.3, R 5.2	12
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	11
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	11
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R23

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R23

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input checked="" type="checkbox"/> points = 0	0	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	0

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☒ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☐ points = 0

4

Total for R 5

Add the points in the boxes above

14

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


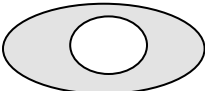
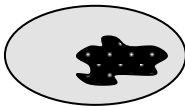
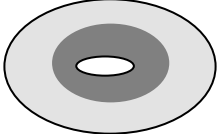
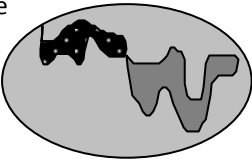
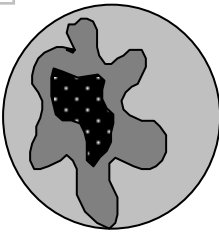
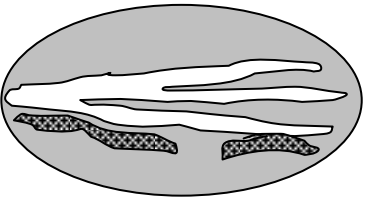
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>21</u> = <u>21</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>34</u> = <u>34</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics <i>Choose the highest rating if wetland falls into several categories</i> If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R25

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R25/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	8	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	13
Hydroperiods	H 1.2, H 1.3	13
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	13
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	13
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	13
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R25

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


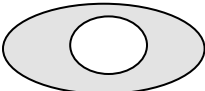
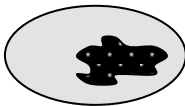
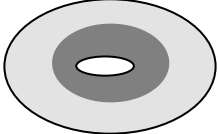
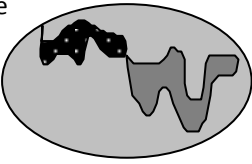
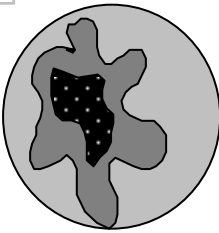
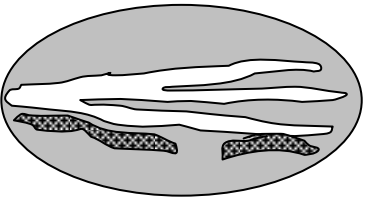
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: <u>> 9 species: points = 2</u> 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 2	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		4	
Total for H 1		Add the points in the boxes above	9

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>37</u> = <u>37</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R27

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R27; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	8	20

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	14
Hydroperiods	H 1.2, H 1.3	14
Ponded depressions	R 1.1	14
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	14
Map of the contributing basin	R 2.2, R 2.3, R 5.2	19
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	14
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	14
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R27

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R27

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the drainage in which wetland is found.</i>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☒ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☐ points = 0

4

Total for R 5

Add the points in the boxes above

14

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

0

Total for R 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


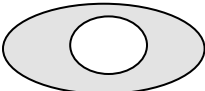
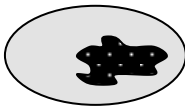
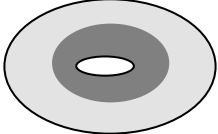
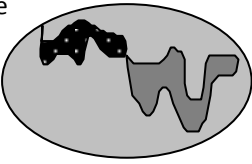
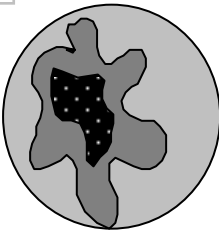
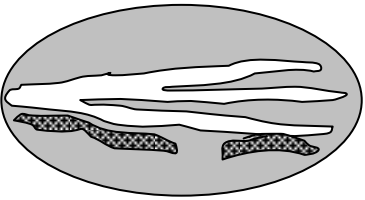
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>High = 3 points <input type="checkbox"/></p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	11

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>44</u> = <u>44</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R28

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R28/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	5	6	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	10
Hydroperiods	H 1.2, H 1.3	10
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	10
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

1

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R28

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L Record the rating on the first page


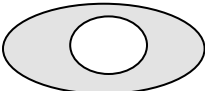
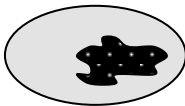
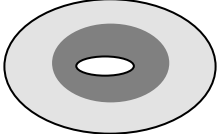
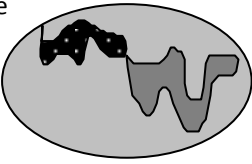
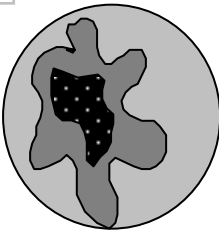
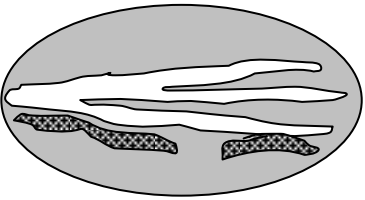
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		1

Rating of Landscape Potential If score is: ☒ 1 = M ☐ 0 = L Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>31</u> = <u>31</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R29

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R29/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	15
Hydroperiods	H 1.2, H 1.3	15
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	15
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R29

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


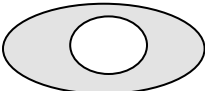
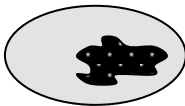
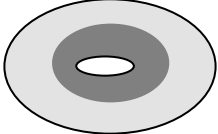
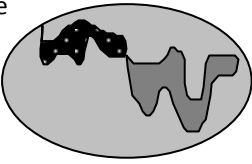
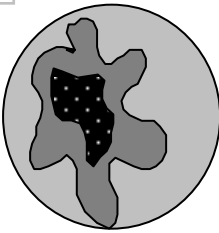
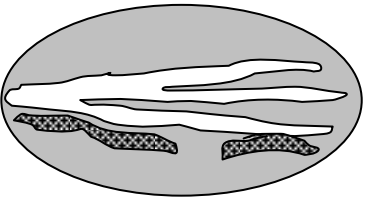
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>40</u> = <u>40</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>40</u> = <u>40</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R3

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R3/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	9
Hydroperiods	H 1.2, H 1.3	9
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	9
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	9
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	9
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R3

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R3

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


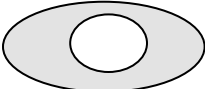
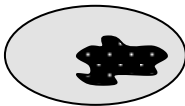
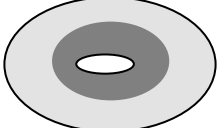
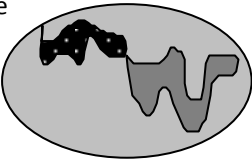
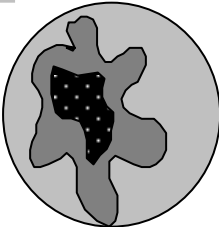
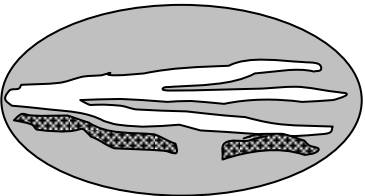
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p>4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p>Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

Wetland name or number R3

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>42</u> = <u>42</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3	
Total for H 2		Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R301

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R301/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	22
Hydroperiods	H 1.2, H 1.3	22
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R301

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R301

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for S 6


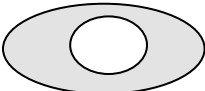
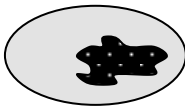
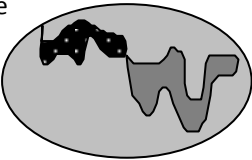
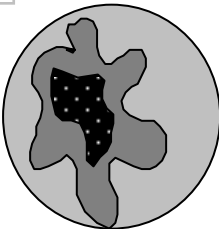
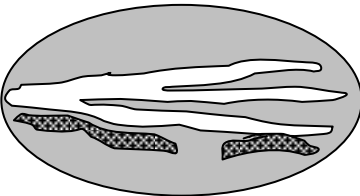
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 2	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ___ Cattails or bulrushes are present within the wetland. ___ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity ✓ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>42</u> = <u>42</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R302

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R302/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	22
Hydroperiods	H 1.2, H 1.3	22
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R302

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R302

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


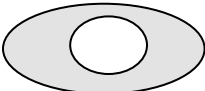
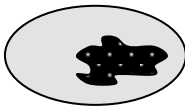
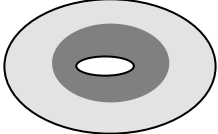
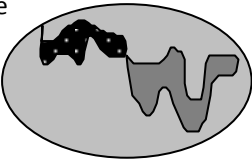
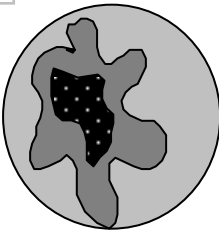
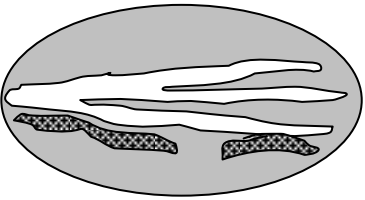
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6	Add the points in the boxes above	1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>42</u> = <u>42</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R31

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R31; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	15
Hydroperiods	H 1.2, H 1.3	15
Ponded depressions	R 1.1	15
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	15
Map of the contributing basin	R 2.2, R 2.3, R 5.2	34
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	15
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R31

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R31

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input checked="" type="checkbox"/> points = 0	0	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	0

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the drainage in which wetland is found.</i>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than 2/3 the area of the wetland

☐ points = 6

Forest or shrub for >1/3 area OR emergent plants > 2/3 area

☐ points = 4

Forest or shrub for > 1/10 area OR emergent plants > 1/3 area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


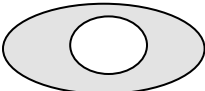
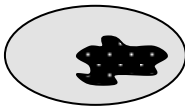
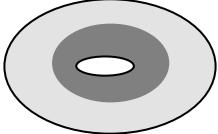
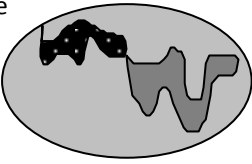
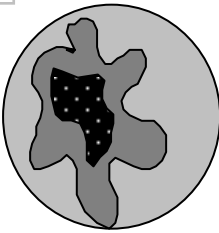
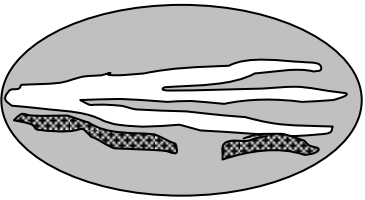
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R35

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R35/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☒ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	5	7	19

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	16
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	16
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	16
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	16
Map of the contributing basin	D 5.3	19
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☒ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☒ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☐ points = 0

3

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☒ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☐ points = 0

3

Total for D 1

Add the points in the boxes above

9

Rating of Site Potential If score is: ☐ 12- 16 = H ☒ 6- 11 = M ☐ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☒ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

4

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☒ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☐ points = 0

4

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

0

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. Do not add points.

Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____

☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0

1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


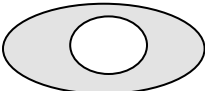
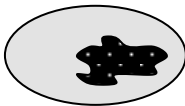
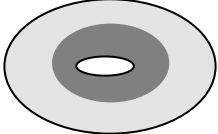
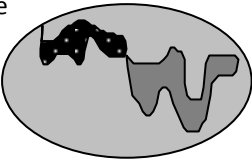
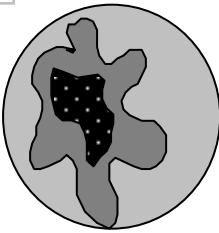
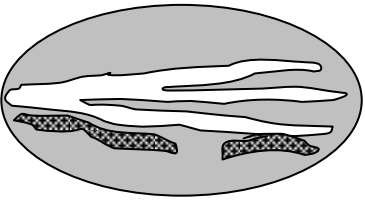
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input checked="" type="checkbox"/> Yes = 3 points & go to H 1.4 <input type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>38</u> = <u>38</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R400

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R400/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	40
Hydroperiods	H 1.2, H 1.3	40
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	40
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	40
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	40
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R400

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R400

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


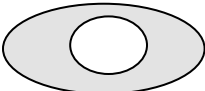
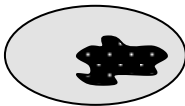
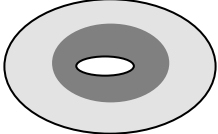
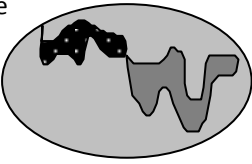
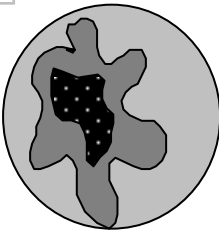
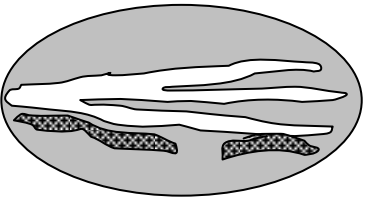
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

Wetland name or number R400

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1		Add the points in the boxes above 4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2		Add the points in the boxes above 6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R401

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R401/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	40
Hydroperiods	H 1.2, H 1.3	40
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	40
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	40
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	40
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R401

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R401

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


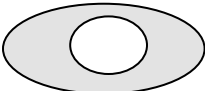
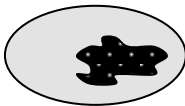
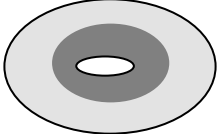
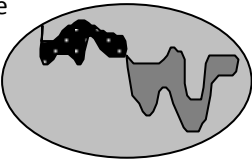
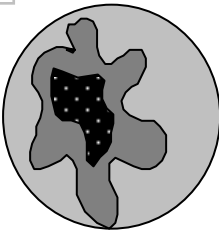
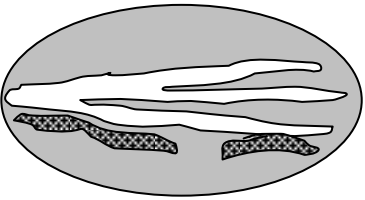
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>High = 3 points <input type="checkbox"/></p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

Wetland name or number R401

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R404

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R404/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	5	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 5
 Wetland has an intermittently flowing outlet ☐ points = 3
 Wetland has a highly constricted permanently flowing outlet ☐ points = 3
 Wetland has a permanently flowing, unconstricted, surface outlet ☐ points = 1

5

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)

- Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area ☐ points = 5
 Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area ☐ points = 3
 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area ☐ points = 1
 Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area ☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*

- Area seasonally ponded is $> \frac{1}{2}$ total area of wetland ☐ points = 3
 Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland ☐ points = 1
 Area seasonally ponded is $< \frac{1}{4}$ total area of wetland ☒ points = 0

0

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?D 2.1. Does the wetland receive stormwater discharges? ☒ Yes = 1 ☐ No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? ☒ Yes = 1 ☐ No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle ☒ Yes = 1 ☐ No = 0

1

Total for D 2 Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list? ☐ Yes = 1 ☒ No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]? ☒ Yes = 1 ☐ No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)? ☒ Yes = 2 ☐ No = 0

2

Total for D 3 Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 8
- Wetland has an intermittently flowing outlet ☐ points = 4
- Wetland has a highly constricted permanently flowing outlet ☐ points = 4
- Wetland has a permanently flowing unconfined surface outlet ☐ points = 0
- (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

8

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).

- Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8
- Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6
- The wetland is a headwater wetland ☐ points = 4
- Seasonal ponding: 1 ft - < 2 ft ☐ points = 4
- Seasonal ponding: 6 in - < 1 ft ☐ points = 2
- Seasonal ponding: < 6 in or wetland has only saturated soils ☒ points = 0

0

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?D 5.1. Does the wetland receive stormwater discharges? ☒ Yes = 1 ☐ No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? ☒ Yes = 1 ☐ No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?
Yes = 1 ☒ No = 0

0

Total for D 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. *Do not add points.*
Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland ☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient ☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____ ☐ points = 0

There are no problems with flooding downstream of the wetland ☐ points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 ☒ No = 0

0


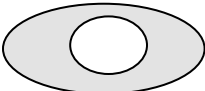
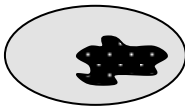
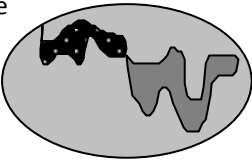
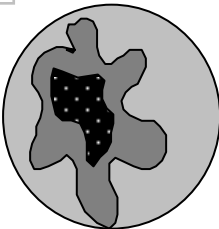
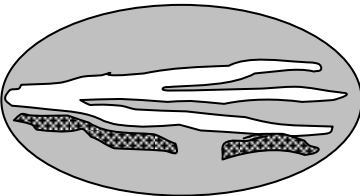
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	0	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

Wetland name or number R404

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R405

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R405/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	5	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R405

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 5
 Wetland has an intermittently flowing outlet ☐ points = 3
 Wetland has a highly constricted permanently flowing outlet ☐ points = 3
 Wetland has a permanently flowing, unconstricted, surface outlet ☐ points = 1

5

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)

- Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area ☐ points = 5
 Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area ☐ points = 3
 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area ☐ points = 1
 Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area ☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*

- Area seasonally ponded is $> \frac{1}{2}$ total area of wetland ☐ points = 3
 Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland ☐ points = 1
 Area seasonally ponded is $< \frac{1}{4}$ total area of wetland ☒ points = 0

0

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?** ☒ Yes = 1 ☐ No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? ☒ Yes = 1 ☐ No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle ☒ Yes = 1 ☐ No = 0

1

Total for D 2

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?** ☐ Yes = 1 ☒ No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]? ☒ Yes = 1 ☐ No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)? ☒ Yes = 2 ☐ No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☒ points = 8

Wetland has an intermittently flowing outlet

☐ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0

(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")

8

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. Do not add points.

Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____

☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0**D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?**

Yes = 2 No = 0

0


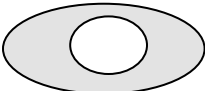
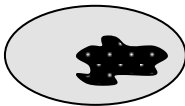
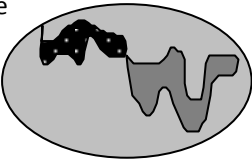
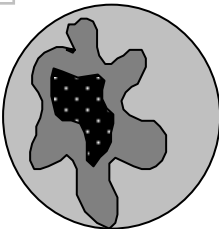
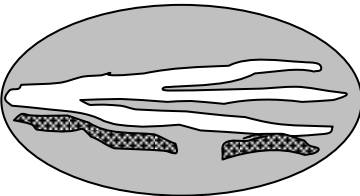
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	0	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	2

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R406

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R406/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	5	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 5
 Wetland has an intermittently flowing outlet ☐ points = 3
 Wetland has a highly constricted permanently flowing outlet ☐ points = 3
 Wetland has a permanently flowing, unconstricted, surface outlet ☐ points = 1

5

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)

- Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area ☐ points = 5
 Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area ☐ points = 3
 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area ☐ points = 1
 Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area ☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*

- Area seasonally ponded is $> \frac{1}{2}$ total area of wetland ☐ points = 3
 Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland ☐ points = 1
 Area seasonally ponded is $< \frac{1}{4}$ total area of wetland ☒ points = 0

0

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?** Yes = 1 No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?** Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]? Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 8
- Wetland has an intermittently flowing outlet ☐ points = 4
- Wetland has a highly constricted permanently flowing outlet ☐ points = 4
- Wetland has a permanently flowing unconstricted surface outlet ☐ points = 0
- (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

8

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).

- Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8
- Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6
- The wetland is a headwater wetland ☐ points = 4
- Seasonal ponding: 1 ft - < 2 ft ☐ points = 4
- Seasonal ponding: 6 in - < 1 ft ☐ points = 2
- Seasonal ponding: < 6 in or wetland has only saturated soils ☒ points = 0

0

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?D 5.1. Does the wetland receive stormwater discharges? ☒ Yes = 1 ☐ No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? ☒ Yes = 1 ☐ No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?
Yes = 1 ☒ No = 0

0

Total for D 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. *Do not add points.*
Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland ☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient ☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____ ☐ points = 0

There are no problems with flooding downstream of the wetland ☐ points = 0

D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 ☒ No = 0

0


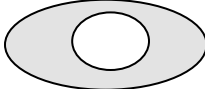
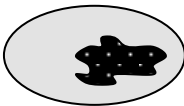
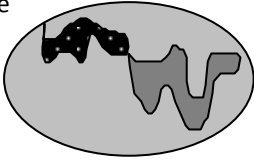
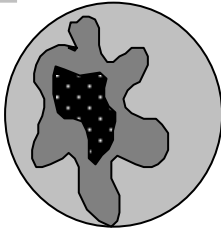
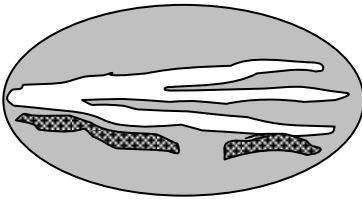
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community:</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants > 12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p>4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p>Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	0	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__	1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	2

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R407

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R407/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	5	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R407

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☒ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

3

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☒ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

4

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

4

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. Do not add points.

Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____

☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0**D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?**

Yes = 2 No = 0

0


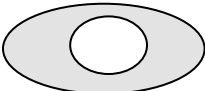
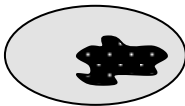
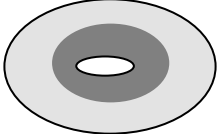
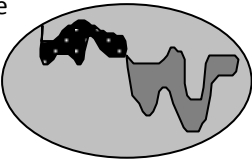
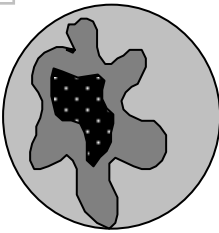
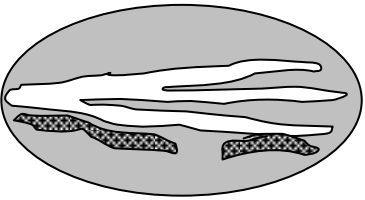
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R408

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R408/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	4	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☐ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☒ points = 1

1

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☐ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☒ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

0

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**☒ Yes = 1 ☐ No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?☒ Yes = 1 ☐ No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?☒ Yes = 1 ☐ No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**Choose the description that best matches conditions around the wetland being rated. *Do not add points.**Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0**D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?**☒ Yes = 2 ☐ No = 0

0


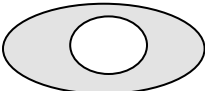
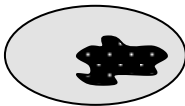
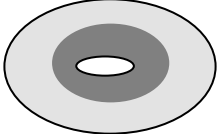
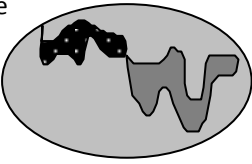
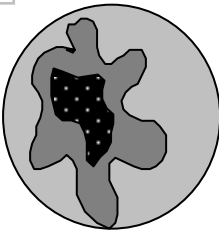
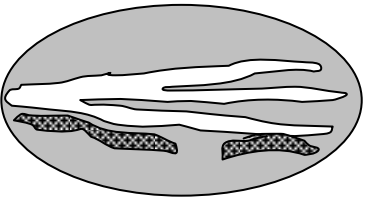
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input checked="" type="checkbox"/> Yes = 3 points & go to H 1.4 <input type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 2	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	10

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>23</u> = <u>23</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>points = 2</u> Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use <u>points = (-2)</u> Does not meet criterion above points = 0		-2
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0
Total for H 2	Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ 4-9 = H ☐ 1-3 = M ☒ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) <u>points = 1</u> Site does not meet any of the criteria above <u>points = 0</u>		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R409

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R409/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	4	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	41
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	41
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	41
Map of the contributing basin	D 5.3	42
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO - go to 2 ☐ YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES - The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES - The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO - go to 5 ☒ YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☒ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

3

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☐ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☒ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

0

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**☒ Yes = 1 ☐ No = 0

1

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?☒ Yes = 1 ☐ No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?☒ Yes = 1 ☐ No = 0

1

Total for D 5

Add the points in the boxes above

3

Rating of Landscape Potential If score is: ☒ 3 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**Choose the description that best matches conditions around the wetland being rated. *Do not add points.**Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0**D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?**☒ Yes = 2 ☐ No = 0

0


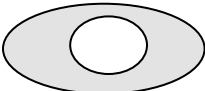
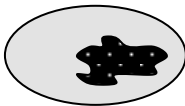
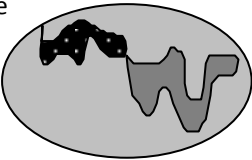
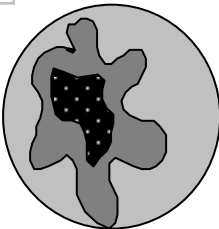
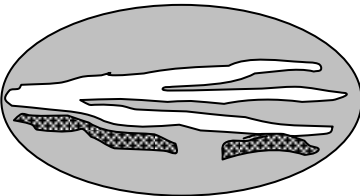
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	2	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species <input type="text"/></p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 3	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3	
Total for H 1		Add the points in the boxes above	12

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>26</u> = <u>26</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>points = 2</u> Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use <u>points = (-2)</u> Does not meet criterion above points = 0		-2	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0	
Total for H 2		Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ 4-9 = H ☐ 1-3 = M ☒ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) <u>points = 1</u> Site does not meet any of the criteria above <u>points = 0</u>		0

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R41

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R41/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	8	20

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	16
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	16
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	16
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	16
Map of the contributing basin	D 5.3	4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO - go to 2 ☐ YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES - The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

✓ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ✓ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES - The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO - go to 5 ☒ YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R41

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☒ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☒ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☐ points = 0

1

Total for D 1

Add the points in the boxes above

4

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☒ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

4

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☒ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☐ points = 0

8

Total for D 4

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

0

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**Choose the description that best matches conditions around the wetland being rated. *Do not add points.**Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0

1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


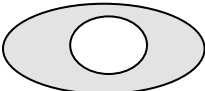
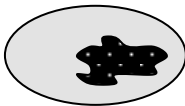
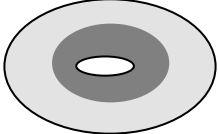
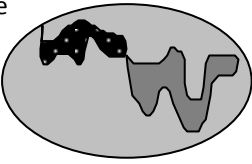
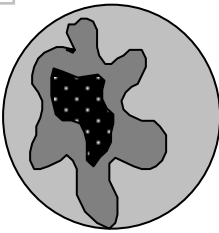
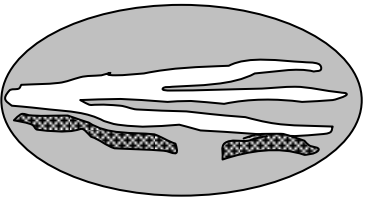
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input checked="" type="checkbox"/> Yes = 3 points & go to H 1.4 <input type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div> <p>High = 3 points <input type="checkbox"/></p>		2

Wetland name or number R41

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ___ Cattails or bulrushes are present within the wetland. ___ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity ✓ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>32</u> = <u>32</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 ✓ It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics <i>Choose the highest rating if wetland falls into several categories</i> If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R410

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R410; EDF Date of site visit: 7/6; 9/20/17
Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY I (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☒ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	8	7	22

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input checked="" type="checkbox"/>
None of the above	<input type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	43
Hydroperiods	H 1.2, H 1.3	43
Ponded depressions	R 1.1	43
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	43
Map of the contributing basin	R 2.2, R 2.3, R 5.2	44
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	43
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	43
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R410

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R410

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input checked="" type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 0	5	
Total for R 1	Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☒ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☐ points = 0

2

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☒ points = 2

Surface flooding problems are in a basin farther down-gradient

☐ points = 1

No flooding problems anywhere downstream

☐ points = 0

2

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


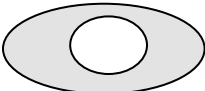
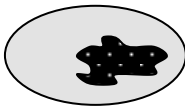
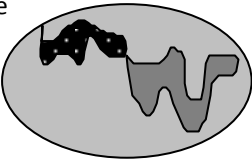
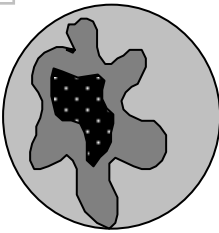
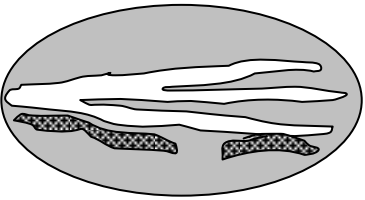
Total for R 6

Add the points in the boxes above

2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input checked="" type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	2	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 3	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input checked="" type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		4
Total for H 1	Add the points in the boxes above	14

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>8</u> + [(% moderate and low intensity land uses)/2] <u>13</u> = <u>21</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>8</u> + [(% moderate and low intensity land uses)/2] <u>39</u> = <u>47</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <p><input checked="" type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream</p> <p><input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</p> <p><input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>II</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R411

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R411; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY I (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☒ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	8	7	22

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input checked="" type="checkbox"/>
None of the above	<input type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	43
Hydroperiods	H 1.2, H 1.3	43
Ponded depressions	R 1.1	43
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	43
Map of the contributing basin	R 2.2, R 2.3, R 5.2	44
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	43
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	43
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
☐ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☐ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R411

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R411

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input checked="" type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 0	5	
Total for R 1	Add the points in the boxes above	6

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☒ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☐ points = 0

4

Total for R 5

Add the points in the boxes above

14

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☒ points = 2

Surface flooding problems are in a basin farther down-gradient

☐ points = 1

No flooding problems anywhere downstream

☐ points = 0

2

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


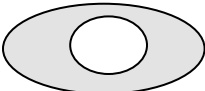
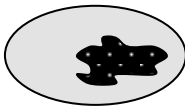
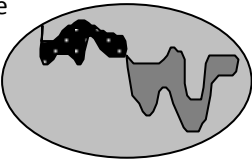
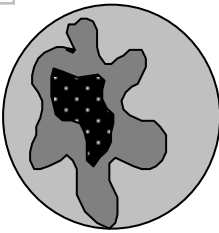
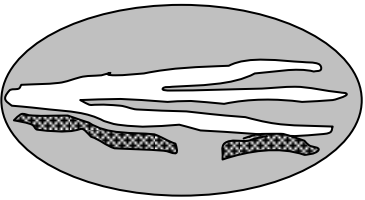
Total for R 6

Add the points in the boxes above

2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community:</p> <p><i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input checked="" type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p>4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	2	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p>Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 3	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input checked="" type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		4	
Total for H 1		Add the points in the boxes above	14

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>9</u> = <u>9</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		1	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>2</u> + [(% moderate and low intensity land uses)/2] <u>37</u> = <u>39</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches <u>points = 1</u> Undisturbed habitat < 10% of Polygon points = 0		1	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above <u>points = 0</u>		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0	
Total for H 2		Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: <u>points = 2</u> <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>II</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): _____ Date of site visit: _____

Rated by _____ Trained by Ecology? ☐ Yes ☐ No Date of training _____

HGM Class used for rating _____ Wetland has multiple HGM classes? ☐ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY _____ (based on functions _____ or special characteristics _____)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 22-27

_____ **Category II** – Total score = 19-21

_____ **Category III** – Total score = 16-18

_____ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	
Score Based on Ratings										TOTAL

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

Wetland name or number _____

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

NO – go to 2

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

NO - go to 3

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

NO - go to 4

YES – The wetland class is **Riverine**

NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 5

YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number_____

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number _____

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

Points
(only 1
score per
box)

S 1.0. Does the site have the potential to improve water quality?

- S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)
- | | |
|--------------------------|------------|
| Slope is 1% or less | points = 3 |
| Slope is > 1% - 2% | points = 2 |
| Slope is > 2% - 5% | points = 1 |
| Slope is greater than 5% | points = 0 |

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

- | | |
|-----------------------------------------------------------|------------|
| Dense, uncut, herbaceous plants > 90% of the wetland area | points = 6 |
| Dense, uncut, herbaceous plants > ½ of area | points = 3 |
| Dense, woody, plants > ½ of area | points = 2 |
| Dense, uncut, herbaceous plants > ¼ of area | points = 1 |
| Does not meet any of the criteria above for plants | points = 0 |

Total for S 1

Add the points in the boxes above

Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

Total for S 2

Add the points in the boxes above

Rating of Landscape Potential If score is: 1-2 = M 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?

S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 **No = 0**

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

Total for S 3

Add the points in the boxes above

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number _____

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

Rating of Site Potential If score is: 1 = M 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

Rating of Landscape Potential If score is: 1 = M 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

Total for S 6


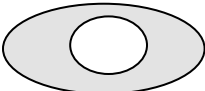
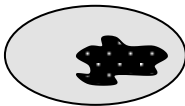
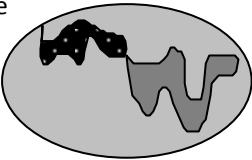
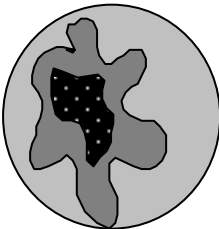
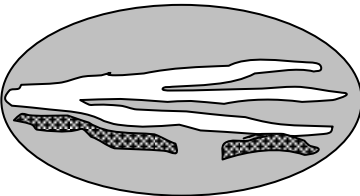
Add the points in the boxes above

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		(only 1 score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?		
H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i> _____ Aquatic bed _____ Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover _____ Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover _____ Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover _____ Scrub-shrub (areas where shrubs have $>30\%$ cover) _____ Forested (areas where trees have $>30\%$ cover)		4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
H 1.3. Surface water H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i> Yes = 3 points & go to H 1.4 No = go to H 1.3.2 H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i> Yes = 3 No = 0		
H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2 . <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i> # of species _____		Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0
H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none. <i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i>		Figure__
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div> <p>All three diagrams in this row are High = 3 points</p>		

Wetland name or number _____

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		
Total for H 1	Add the points in the boxes above	

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat _____ + [(% moderate and low intensity land uses)/2] _____ = _____ % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat _____ + [(% moderate and low intensity land uses)/2] _____ = _____ % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		
Total for H 2	Add the points in the boxes above	

Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		

Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;">Yes – Go to SC 1.1 No = Not a vernal pool</div>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;">Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;">Yes = Category II No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;">Yes = Category I No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to SC 3.2 No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;">Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div>	Cat. I

Wetland name or number _____

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> Yes – Go to SC 4.3 No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 4.3 No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? Yes = Category I bog No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p>Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? Yes = Category I No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? Yes = Category I No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? Yes = Category II No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? Yes = Category II No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R43

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R43/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	7	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	17
Hydroperiods	H 1.2, H 1.3	17
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	17
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	17
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	17
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R43

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community:</p> <p>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p>4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. Surface water</p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. Interspersion of habitats</p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</p> <div><div><p>None = 0 points <input type="checkbox"/></p></div><div><p>Low = 1 point <input checked="" type="checkbox"/></p></div><div><p>Moderate = 2 points <input type="checkbox"/></p></div></div> <p>All three diagrams in this row are</p> <div><p>High = 3 points <input type="checkbox"/></p></div> <div><p>Riparian braided channels with 2 classes</p></div> <div><p>Riparian braided channels with 2 classes</p></div>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>31</u> = <u>31</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>48</u> = <u>48</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R44

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R44; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	6	7	20

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	18
Hydroperiods	H 1.2, H 1.3	18
Ponded depressions	R 1.1	18
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	18
Map of the contributing basin	R 2.2, R 2.3, R 5.2	19
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	18
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	18
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R44

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R44

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☒ 3-6 = H ☐ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the drainage in which wetland is found.</i>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☒ points = 2

Plants do not meet above criteria

☐ points = 0

2

Total for R 5

Add the points in the boxes above

12

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

0

Total for R 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


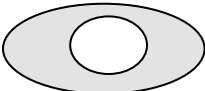
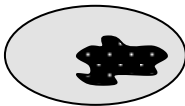
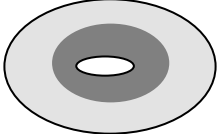
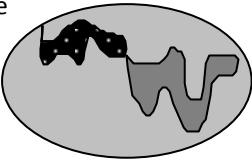
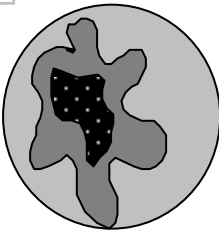
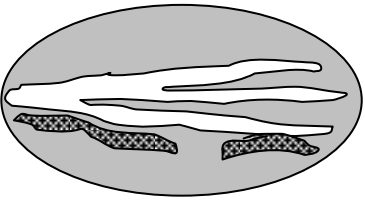
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 2

Wetland name or number R44

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>44</u> = <u>44</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R45

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R45; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
☒ Category II – Total score = 19-21
 Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	7	19

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	20
Hydroperiods	H 1.2, H 1.3	20
Ponded depressions	R 1.1	20
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	20
Map of the contributing basin	R 2.2, R 2.3, R 5.2	21
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	20
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	20
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R45

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R45

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


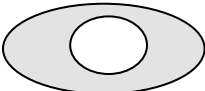
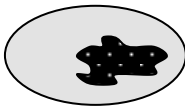
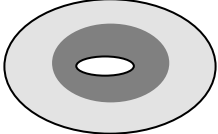
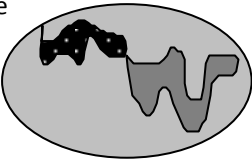
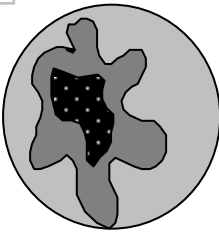
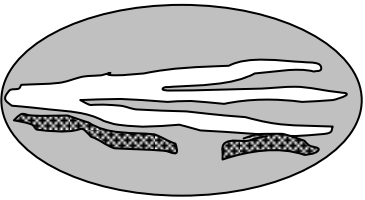
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>27</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>48</u> = <u>48</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p style="text-align: right;"><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p style="text-align: right;"><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p style="text-align: center;">NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R51

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R51; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	20
Hydroperiods	H 1.2, H 1.3	20
Ponded depressions	R 1.1	20
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	20
Map of the contributing basin	R 2.2, R 2.3, R 5.2	21
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	20
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	20
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R51

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R51

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <u>Answer YES if there is a TMDL for the drainage in which wetland is found.</u>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☐ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


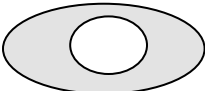
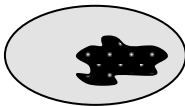
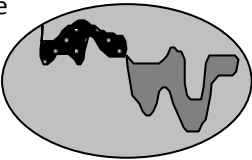
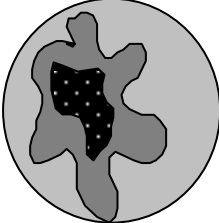
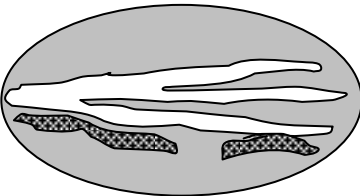
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>36</u> = <u>36</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R58

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R58/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	7	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	22
Hydroperiods	H 1.2, H 1.3	22
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R58

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


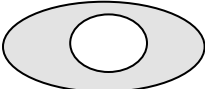
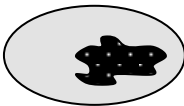
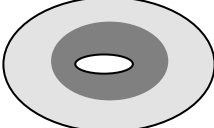
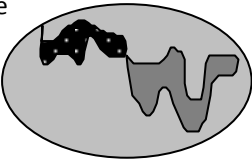
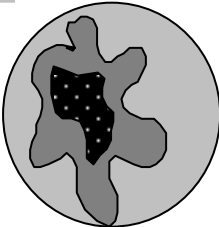
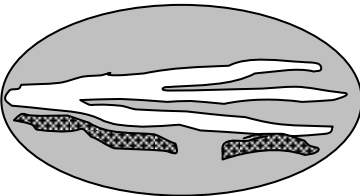
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>34</u> = <u>34</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R63

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R63; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	23
Hydroperiods	H 1.2, H 1.3	23
Ponded depressions	R 1.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	23
Map of the contributing basin	R 2.2, R 2.3, R 5.2	32
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	23
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	23
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R63

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R63

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*Forest or shrub for more than $\frac{2}{3}$ the area of the wetland☐ points = 6Forest or shrub for $>\frac{1}{3}$ area OR emergent plants $>\frac{2}{3}$ area☐ points = 4Forest or shrub for $>\frac{1}{10}$ area OR emergent plants $>\frac{1}{3}$ area☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**Yes = 0 **No = 1**

1

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?Yes = 1 **No = 0**

0

R 5.3. Is the up-gradient stream or river controlled by dams?Yes = 0 **No = 1**

1

Total for R 5

Add the points in the boxes above

2

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?Yes = 2 **No = 0**

0


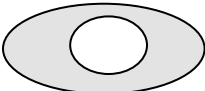
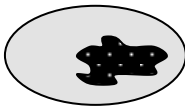
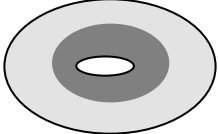
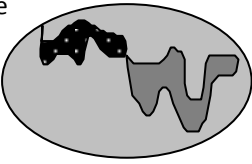
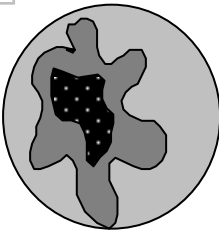
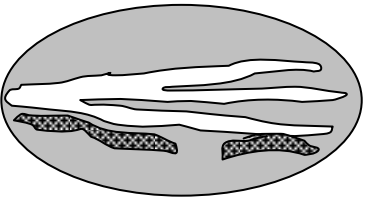
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>46</u> = <u>46</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R67

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R67/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	25
Hydroperiods	H 1.2, H 1.3	25
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	25
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R67

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


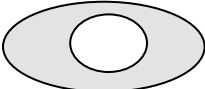
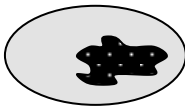
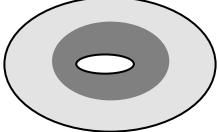
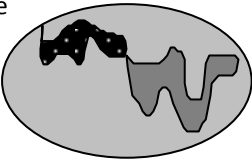
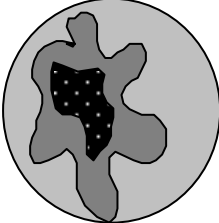
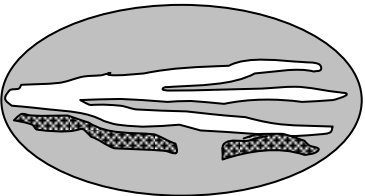
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__
		0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R68

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R68/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	22
Hydroperiods	H 1.2, H 1.3	22
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R68

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


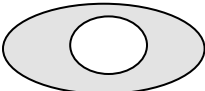
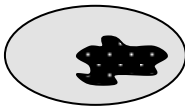
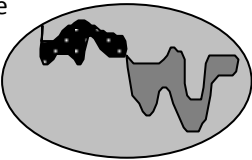
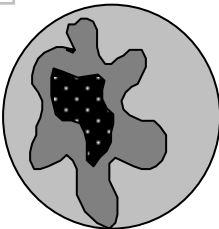
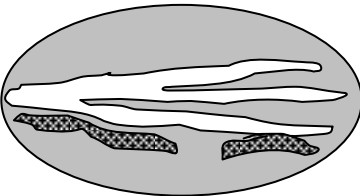
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	1	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	2	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 2	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		0	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics <i>Choose the highest rating if wetland falls into several categories</i> If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R70

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R70/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5;14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	7	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	22
Hydroperiods	H 1.2, H 1.3	22
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	22
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**

S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?

S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?

Yes = 1 No = 0

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.

Yes = 1 No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)?

Yes = 2 No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R70

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


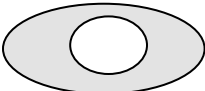
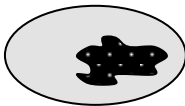
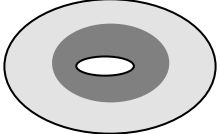
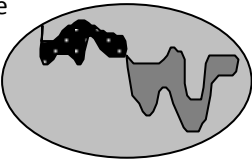
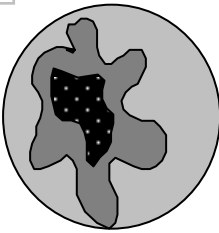
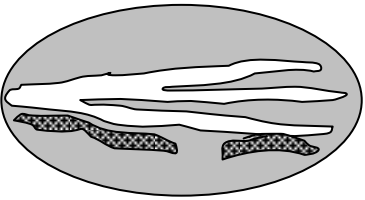
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

Wetland name or number R70

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>33</u> = <u>33</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R72

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R72; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	26
Hydroperiods	H 1.2, H 1.3	26
Ponded depressions	R 1.1	26
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	26
Map of the contributing basin	R 2.2, R 2.3, R 5.2	28
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	26
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	26
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R72

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R72

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	1	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	1

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than 2/3 the area of the wetland

☐ points = 6

Forest or shrub for >1/3 area OR emergent plants > 2/3 area

☐ points = 4

Forest or shrub for > 1/10 area OR emergent plants > 1/3 area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


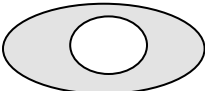
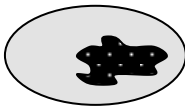
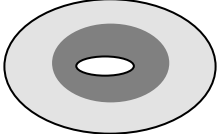
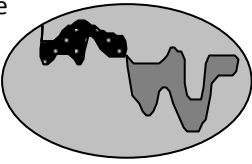
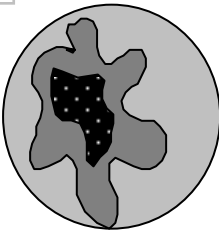
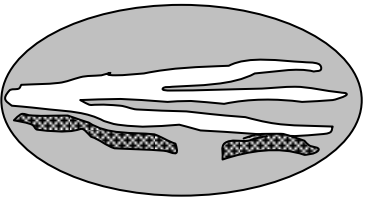
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>35</u> = <u>35</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>44</u> = <u>44</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R77

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R77/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	26
Hydroperiods	H 1.2, H 1.3	26
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	26
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	26
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	26
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R77

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 <u>points = 0</u>

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 <u>No = 0</u>		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


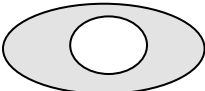
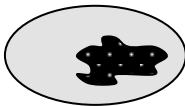
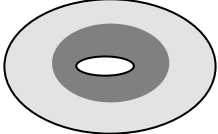
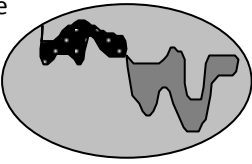
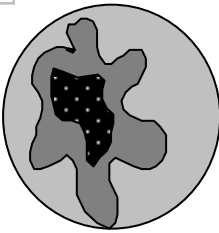
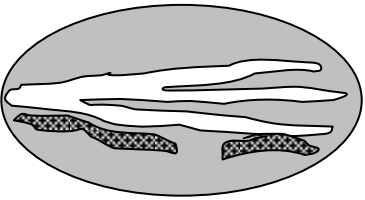
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 <u>points = 1</u> points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 <u>No = 0</u>		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R78

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R78; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	27
Hydroperiods	H 1.2, H 1.3	27
Ponded depressions	R 1.1	27
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	27
Map of the contributing basin	R 2.2, R 2.3, R 5.2	28
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	27
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	27
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R78

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R78

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than 2/3 the area of the wetland

☐ points = 6

Forest or shrub for >1/3 area OR emergent plants > 2/3 area

☐ points = 4

Forest or shrub for > 1/10 area OR emergent plants > 1/3 area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


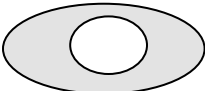
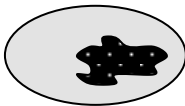
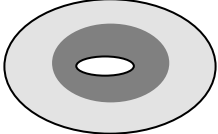
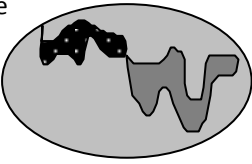
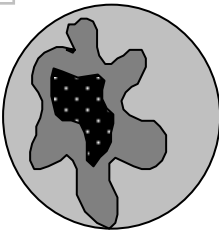
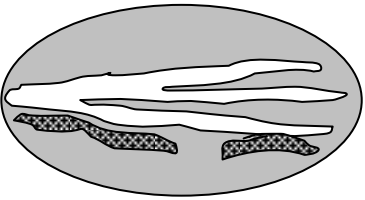
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>High = 3 points <input type="checkbox"/></p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R80

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R80/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☐ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	23
Hydroperiods	H 1.2, H 1.3	23
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	23
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	23
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO - go to 2 ☐ YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES - The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES - The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO - go to 5 ☐ YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R80

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


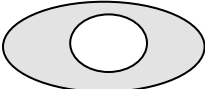
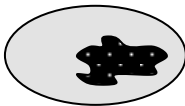
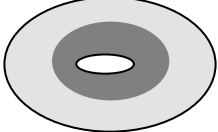
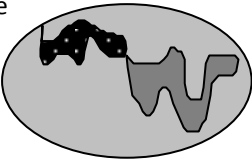
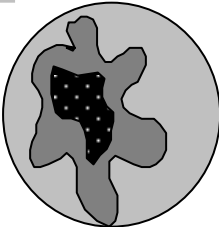
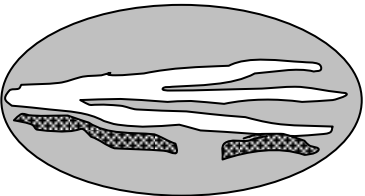
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2	
Total for H 1		Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3	
Total for H 2		Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R81

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R81/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	23
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	23
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	23
Map of the contributing basin	D 5.3	24
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

✓ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ✓ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☒ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

3

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☒ points = 4

Wetland has a highly constricted permanently flowing outlet

☐ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0

(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")

4

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

4

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

0

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. Do not add points.

Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____

☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0

1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


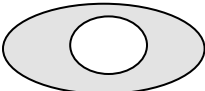
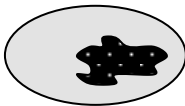
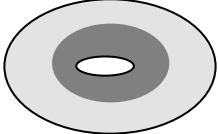
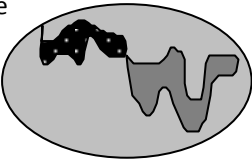
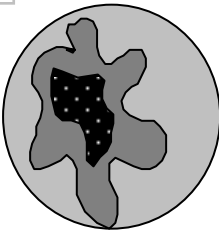
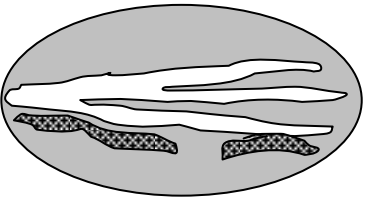
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 1

<p>H 1.6. <u>Special habitat features</u> <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream.</p> <p><input type="checkbox"/> Cattails or bulrushes are present within the wetland.</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.</p> <p><input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded.</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity</p> <p><input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)</p>	2
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">5</p>

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
<p>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> %</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1km Polygon points = 2</p> <p>10-19% of 1km Polygon points = 1</p> <p><10% of 1km Polygon points = 0</p>	3	
<p>H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10 - 50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10 - 50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of Polygon points = 0</p>	2	
<p>H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2)</p> <p>Does not meet criterion above points = 0</p>	0	
<p>H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i></p> <p>Yes = 3 No = 0</p>	3	
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p style="text-align: center;">8</p>	

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score that applies to the wetland being rated</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <p>Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	1	

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R82

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R82/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
 Category II – Total score = 19-21
☒ Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	23
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	23
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	23
Map of the contributing basin	D 5.3	24
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 5

Wetland has an intermittently flowing outlet

☐ points = 3

Wetland has a highly constricted permanently flowing outlet

☒ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

3

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questionsD 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☐ points = 8

Wetland has an intermittently flowing outlet

☐ points = 4

Wetland has a highly constricted permanently flowing outlet

☒ points = 4

Wetland has a permanently flowing unconfined surface outlet

☐ points = 0*(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

4

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6

The wetland is a headwater wetland

☐ points = 4

Seasonal ponding: 1 ft - < 2 ft

☐ points = 4

Seasonal ponding: 6 in - < 1 ft

☐ points = 2

Seasonal ponding: < 6 in or wetland has only saturated soils

☒ points = 0

0

Total for D 4

Add the points in the boxes above

4

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**D 5.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?

Yes = 1 No = 0

0

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. Do not add points.

Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

Flooding occurs in sub-basin that is immediately down-gradient of wetland

☐ points = 2

Surface flooding problems are in a sub-basin farther down-gradient

☒ points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____

☐ points = 0

There are no problems with flooding downstream of the wetland

☐ points = 0

1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


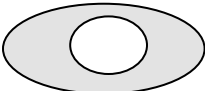
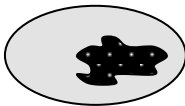
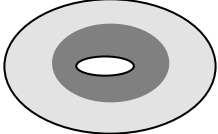
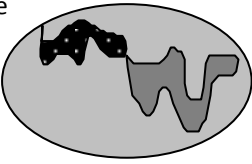
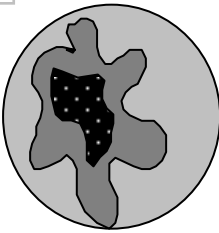
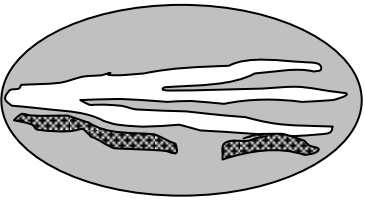
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>3</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>52</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>3</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>52</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R84

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R84/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	23
Hydroperiods	H 1.2, H 1.3	23
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	23
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	23
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R84

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


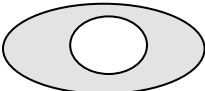
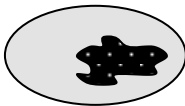
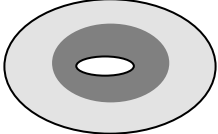
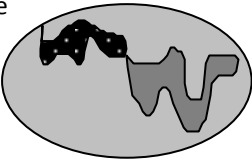
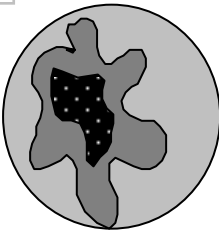
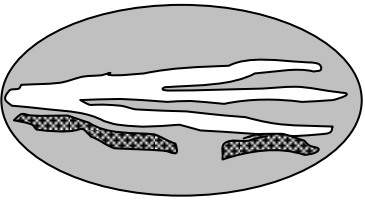
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 0	

Wetland name or number R84

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		0
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	6

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R85

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R85/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	25
Hydroperiods	H 1.2, H 1.3	25
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	25
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R85

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for S 6


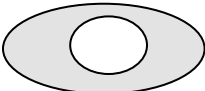
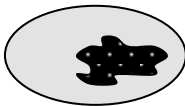
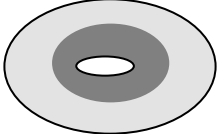
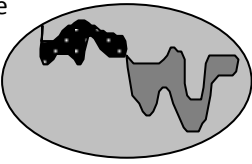
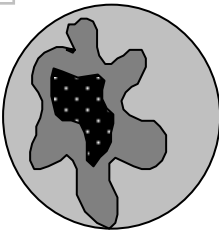
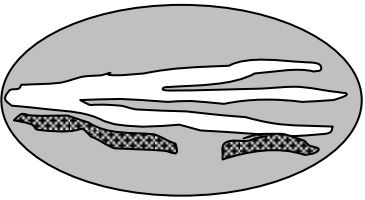
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R88

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R88/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	15
Hydroperiods	H 1.2, H 1.3	15
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	15
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R88

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


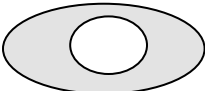
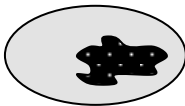
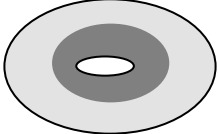
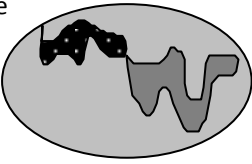
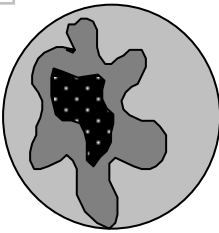
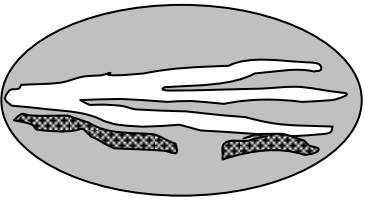
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R89

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R89/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
 Category II – Total score = 19-21
☒ Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	25
Hydroperiods	H 1.2, H 1.3	25
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	25
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R89

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for S 6


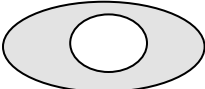
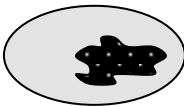
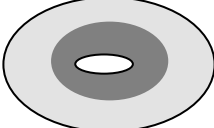
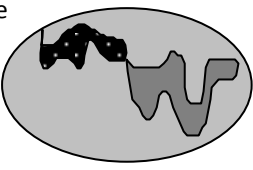
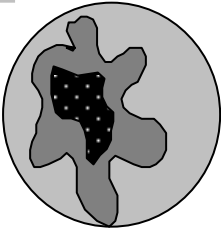
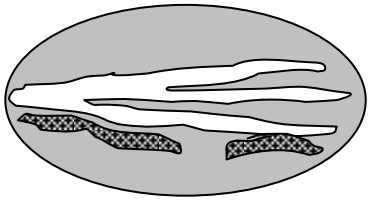
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R90

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R90/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	15
Hydroperiods	H 1.2, H 1.3	15
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	15
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDSPoints
(only 1
score per
box)**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R90

SLOPE WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


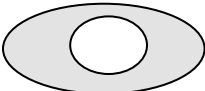
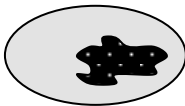
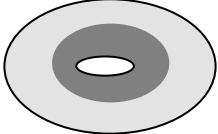
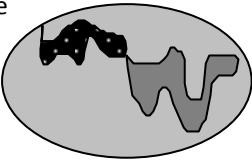
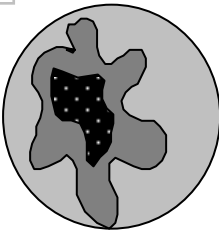
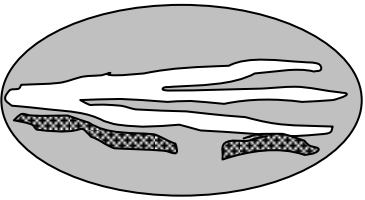
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	Yes = 1 No = 0	0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>45</u> = <u>45</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>45</u> = <u>45</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R91

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R91; EDF Date of site visit: 7/6; 9/20/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Riverine Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	6	6	18

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	25
Hydroperiods	H 1.2, H 1.3	25
Ponded depressions	R 1.1	25
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	25
Map of the contributing basin	R 2.2, R 2.3, R 5.2	35
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	25
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

 The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R91

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number R91

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion**R 4.0. Does the site have the potential to reduce flooding and erosion?****R 4.1. Characteristics of the overbank storage the wetland provides:***Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).*

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than 2/3 the area of the wetland

☐ points = 6

Forest or shrub for >1/3 area OR emergent plants > 2/3 area

☐ points = 4

Forest or shrub for > 1/10 area OR emergent plants > 1/3 area

☐ points = 2

Plants do not meet above criteria

☒ points = 0

0

Total for R 5

Add the points in the boxes above

10

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?**R 5.1. Is the stream or river adjacent to the wetland downcut?**

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?**R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.***

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☐ points = 2

Surface flooding problems are in a basin farther down-gradient

☒ points = 1

No flooding problems anywhere downstream

☐ points = 0

1

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


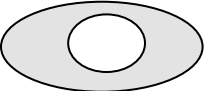
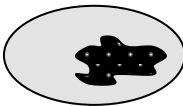
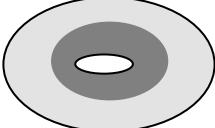
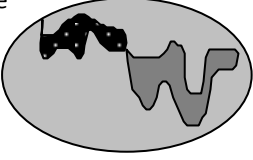
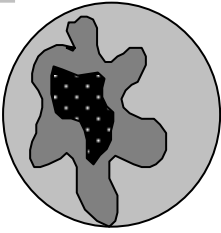
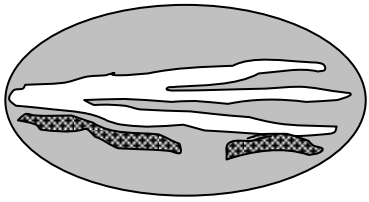
Total for R 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>	3	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	6

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- ✓ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R95N

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R95N/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☒ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	29
Hydroperiods	H 1.2, H 1.3	29
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	29
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	29
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	29
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number R95N

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R95N

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

1

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0

Total for S 6


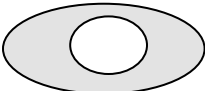
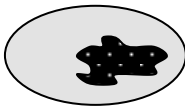
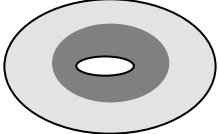
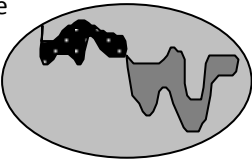
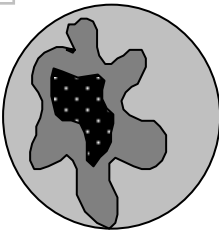
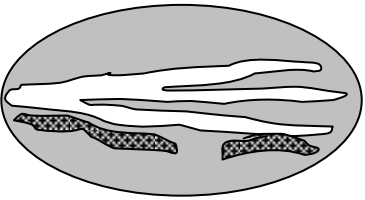
Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) 4 or more checks: points = 3</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover) 3 checks: points = 2</p> <p>2 checks: points = 1</p> <p>1 check: points = 0</p>		0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.</p> <p><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.</p> <p><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i></p> <p><i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p>Scoring: > 9 species: points = 2</p> <p>4-9 species: points = 1</p> <p>< 4 species: points = 0</p>		1
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <p>High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 0

Wetland name or number R95N

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>48</u> = <u>48</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>48</u> = <u>48</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R95S

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R95S/EDF Date of site visit: 11/29/17
 Rated by J. Dirkse, S. Maharry, C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ Category I – Total score = 22-27
☐ Category II – Total score = 19-21
☒ Category III – Total score = 16-18
☐ Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	25
Hydroperiods	H 1.2, H 1.3	25
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	25
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	48

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☒ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**S 1.0. Does the site have the potential to improve water quality?**S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less

☐ points = 3

Slope is > 1% - 2%

☐ points = 2

Slope is > 2% - 5%

☒ points = 1

Slope is greater than 5%

☐ points = 0

1

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area

☐ points = 6

Dense, uncut, herbaceous plants > ½ of area

☐ points = 3

Dense, woody, plants > ½ of area

☐ points = 2

Dense, uncut, herbaceous plants > ¼ of area

☐ points = 1

Does not meet any of the criteria above for plants

☒ points = 0

0

Total for S 1

Add the points in the boxes above

1

Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle**Yes = 1** No = 0

1

Total for S 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?Yes = 1 **No = 0**

0

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.***Yes = 1** No = 0

1

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?**Yes = 2** No = 0

2

Total for S 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

Wetland name or number R95S

<u>SLOPE WETLANDS</u>		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion		
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		0 points = 1 points = 0

Rating of Site Potential If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0		0

Rating of Landscape Potential If score is: ☐ 1 = M ☒ 0 = L


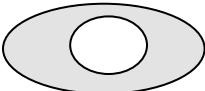
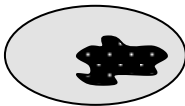
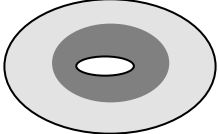
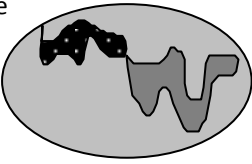
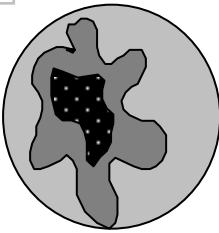
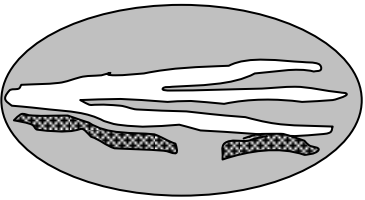
Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream		1 points = 2 points = 1 points = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for S 6		1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 0	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ — **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number R97

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): R97/EDF Date of site visit: 7/6; 9/21/17
 Rated by J. Dirkse; Grette Associates Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ☒ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
 Category II – Total score = 19-21
☒ Category III – Total score = 16-18
 Category IV – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	TOTAL
Score Based on Ratings	6	5	6	17

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	23
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	23
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	23
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	23
Map of the contributing basin	D 5.3	29
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	48

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 ___ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
 ___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 ___ The water leaves the wetland **without being impounded**.

☐ NO - go to 3 ☒ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

✓ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 ✓ The overbank flooding occurs at least once every 10 years.

☒ NO - go to 4 ☐ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 5 ☒ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)**D 1.0. Does the site have the potential to improve water quality?****D 1.1. Characteristics of surface water outflows from the wetland:**

Wetland has no surface water outlet

☒ points = 5

Wetland has an intermittently flowing outlet

☐ points = 3

Wetland has a highly constricted permanently flowing outlet

☐ points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

☐ points = 1

5

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)☐ YES = 3 ☒ NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area☐ points = 5Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area☐ points = 3Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area☐ points = 1Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area☒ points = 0

0

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland☐ points = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland☐ points = 1Area seasonally ponded is $< \frac{1}{4}$ total area of wetland☒ points = 0

0

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: ☐ 12- 16 = H ☐ 6- 11 = M ☒ 0- 5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?**D 2.1. Does the wetland receive stormwater discharges?**

Yes = 1 No = 0

0

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source Cattle

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 or 4 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?**D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?**

Yes = 1 No = 0

0

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?

Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?

Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

DEPRESSIONAL WETLANDSPoints
(only 1 score
per box)**Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion.**D 4.0. Does the site have the potential to reduce flooding and erosion?****D 4.1. Characteristics of surface water outflows from the wetland:**

- Wetland has no surface water outlet ☒ points = 8
- Wetland has an intermittently flowing outlet ☐ points = 4
- Wetland has a highly constricted permanently flowing outlet ☐ points = 4
- Wetland has a permanently flowing unconfined surface outlet ☐ points = 0
- (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")*

8

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).

- Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 8
- Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding ☐ points = 6
- The wetland is a headwater wetland ☐ points = 4
- Seasonal ponding: 1 ft - < 2 ft ☐ points = 4
- Seasonal ponding: 6 in - < 1 ft ☐ points = 2
- Seasonal ponding: < 6 in or wetland has only saturated soils ☒ points = 0

0

Total for D 4

Add the points in the boxes above

8

Rating of Site Potential If score is: ☐ 12-16 = H ☒ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

- D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0 0
- D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? Yes = 1 No = 0 0
- D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses? Yes = 1 No = 0 0

Total for D 5

Add the points in the boxes above

0

Rating of Landscape Potential If score is: ☐ 3 = H ☐ 1 or 2 = M ☒ 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?**D 6.1. The wetland is in a landscape that has flooding problems.**

Choose the description that best matches conditions around the wetland being rated. *Do not add points. Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND

- Flooding occurs in sub-basin that is immediately down-gradient of wetland ☐ points = 2
- Surface flooding problems are in a sub-basin farther down-gradient ☒ points = 1

1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why _____ ☐ points = 0

There are no problems with flooding downstream of the wetland ☐ points = 0

- D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 0


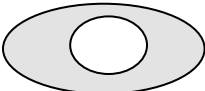
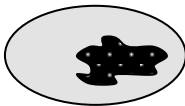
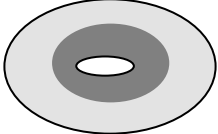
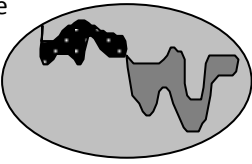
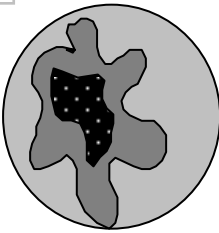
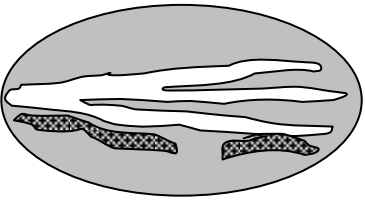
Total for D 6

Add the points in the boxes above

1

Rating of Value If score is: ☐ 2-4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (> 30-100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover</p> <p><input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	0	
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p> <p style="text-align: right;">Yes = 1 No = 0</p>	0	
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>	0	
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	1	
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>	Figure__ 1	

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ___ Cattails or bulrushes are present within the wetland. ___ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity ✓ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		1
Total for H 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 15-18 = H ☒ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>49</u> = <u>49</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		3
Total for H 2	Add the points in the boxes above	8

Rating of Landscape Potential If score is: ☒ 4-9 = H ☐ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: ☐ 2 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <p><input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number Reecer Ck

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Reecer Ck; EDF Date of site visit: 7/6; 9/20/17
Rated by J. Dirkse; S. Maharry; C. Wallin Trained by Ecology? ☒ Yes ☐ No Date of training 9/05; 5/14
HGM Class used for rating Riverine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Earth; GPS data; GIS data

OVERALL WETLAND CATEGORY I (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☒ **Category I** – Total score = 22-27
☐ **Category II** – Total score = 19-21
☐ **Category III** – Total score = 16-18
☐ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	6	8	8	22

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Wetland name or number Reecer Ck

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	1
Hydroperiods	H 1.2, H 1.3	1
Ponded depressions	R 1.1	1
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	1
Map of the contributing basin	R 2.2, R 2.3, R 5.2	2
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	1
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	45/46
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	47
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	48

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
☐ At least 30% of the open water area is deeper than 10 ft (3 m)

☒ NO – go to 2 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),
☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☐ The water leaves the wetland **without being impounded**.

☒ NO - go to 3 ☐ YES – The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years.

☐ NO - go to 4 ☒ YES – The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number Reecer G

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

RIVERINE WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland <input type="checkbox"/> points = 6 Depressions cover $> \frac{1}{10}$ area of wetland <input checked="" type="checkbox"/> points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland <input type="checkbox"/> points = 1 No depressions present <input type="checkbox"/> points = 0	3	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland <input type="checkbox"/> points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland <input type="checkbox"/> points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland <input type="checkbox"/> points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for R 1	Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☒ 0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>Cattle</u>	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ 3-6 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	1
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <u>Answer YES if there is a TMDL for the drainage in which wetland is found.</u>	Yes = 2 No = 0	2
Total for R 3	Add the points in the boxes above	3

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

RIVERINE WETLANDS

Points
(only 1 score
per box)

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?

R 4.1. Characteristics of the overbank storage the wetland provides:

Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).

If the ratio is more than 2

☒ points = 10

If the ratio is 1-2

☐ points = 8

If the ratio is ½-<1

☐ points = 4

If the ratio is ¼-< ½

☐ points = 2

If the ratio is < ¼

☐ points = 1

10

R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).*

Forest or shrub for more than ²/₃ the area of the wetland

☐ points = 6

Forest or shrub for >¹/₃ area OR emergent plants > ²/₃ area

☒ points = 4

Forest or shrub for > ¹/₁₀ area OR emergent plants > ¹/₃ area

☐ points = 2

Plants do not meet above criteria

☐ points = 0

4

Total for R 5

Add the points in the boxes above

14

Rating of Site Potential If score is: ☒ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

R 5.1. Is the stream or river adjacent to the wetland downcut?

Yes = 0 No = 1

0

R 5.2. Does the up-gradient watershed include a UGA or incorporated area?

Yes = 1 No = 0

0

R 5.3. Is the up-gradient stream or river controlled by dams?

Yes = 0 No = 1

1

Total for R 5

Add the points in the boxes above

1

Rating of Landscape Potential If score is: ☐ 3 = H ☒ 1 or 2 = M ☐ 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?

R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.*

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources

☒ points = 2

Surface flooding problems are in a basin farther down-gradient

☐ points = 1

No flooding problems anywhere downstream

☐ points = 0

2

R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

0


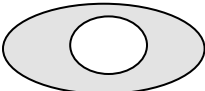
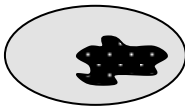
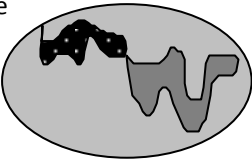
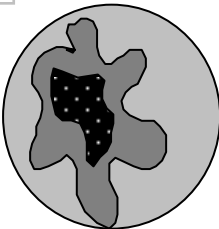
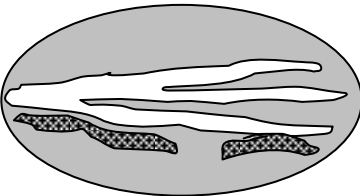
Total for R 6

Add the points in the boxes above

2

Rating of Value If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input checked="" type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		3
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
<p>H 1.3. <u>Surface water</u></p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. <input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No. <input checked="" type="checkbox"/> Yes = 3 <input type="checkbox"/> No = 0</p>		3
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft^2. <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.</i> <i>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>High = 3 points <input checked="" type="checkbox"/></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure__ 3

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>			
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)	4		
Total for H 1		Add the points in the boxes above	15

Rating of Site Potential If score is: ☒ 15-18 = H ☐ 7-14 = M ☐ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?			
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>31</u> = <u>31</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>50</u> = <u>50</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		1	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0	
Total for H 2		Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☐ 4-9 = H ☒ 1-3 = M ☐ < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	Category
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</div> SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;"><input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;"><input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;"><input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</div>	Cat. I

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <input type="checkbox"/> Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems <input type="checkbox"/> The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is within the 100 year floodplain of a river or stream <input type="checkbox"/> Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species <input type="checkbox"/> There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ✓ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- ✓ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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Wetland name or number _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): _____ Date of site visit: _____

Rated by _____ Trained by Ecology? ☐ Yes ☐ No Date of training _____

HGM Class used for rating _____ Wetland has multiple HGM classes? ☐ Y ☐ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY _____ (based on functions _____ or special characteristics _____)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 22-27

_____ **Category II** – Total score = 19-21

_____ **Category III** – Total score = 16-18

_____ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M L	H M L	H M L	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings				

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY <i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

Wetland name or number _____

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

___ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
___ At least 30% of the open water area is deeper than 10 ft (3 m)

NO – go to 2

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
___ The water leaves the wetland **without being impounded**.

NO - go to 3

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
___ The overbank flooding occurs at least once every 10 years.

NO - go to 4

YES – The wetland class is **Riverine**

NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 5

YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number_____

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number _____

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

Points
(only 1
score per
box)

S 1.0. Does the site have the potential to improve water quality?

- S 1.1. Characteristics of average slope of wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)
- | | |
|--------------------------|------------|
| Slope is 1% or less | points = 3 |
| Slope is > 1% - 2% | points = 2 |
| Slope is > 2% - 5% | points = 1 |
| Slope is greater than 5% | points = 0 |

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (*use NRCS definitions*): Yes = 3 **No = 0**

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

- | | |
|-----------------------------------------------------------|------------|
| Dense, uncut, herbaceous plants > 90% of the wetland area | points = 6 |
| Dense, uncut, herbaceous plants > ½ of area | points = 3 |
| Dense, woody, plants > ½ of area | points = 2 |
| Dense, uncut, herbaceous plants > ¼ of area | points = 1 |
| Does not meet any of the criteria above for plants | points = 0 |

Total for S 1

Add the points in the boxes above

Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 **No = 0**

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources Cattle

Yes = 1 No = 0

Total for S 2

Add the points in the boxes above

Rating of Landscape Potential If score is: 1-2 = M 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?

S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)?

Yes = 1 **No = 0**

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1 No = 0

S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the drainage or basin in which wetland is found*)?

Yes = 2 No = 0

Total for S 3

Add the points in the boxes above

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number _____

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion

Points
(only 1
score per
box)

S 4.0. Does the site have the potential to reduce flooding and erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

All other conditions

points = 1

points = 0

Rating of Site Potential If score is: 1 = M 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?

Yes = 1 No = 0

Rating of Landscape Potential If score is: 1 = M 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

Surface flooding problems are in a sub-basin farther down-gradient

No flooding problems anywhere downstream

points = 2

points = 1

points = 0

S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?

Yes = 2 No = 0

Total for S 6


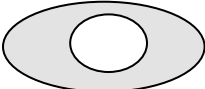
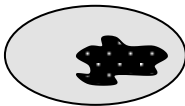
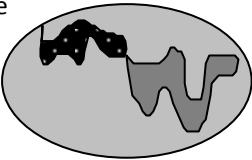
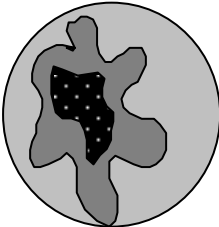
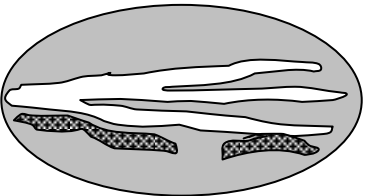
Add the points in the boxes above

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		(only 1 score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?		
H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i> _____ Aquatic bed _____ Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover _____ Emergent plants >12-40 in (>30 -100 cm) high are the highest layer with $>30\%$ cover _____ Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover _____ Scrub-shrub (areas where shrubs have $>30\%$ cover) _____ Forested (areas where trees have $>30\%$ cover)		4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
H 1.3. Surface water H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i> Yes = 3 points & go to H 1.4 No = go to H 1.3.2 H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i> Yes = 3 No = 0		
H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2 . <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i> # of species _____		Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0
H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none. <i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i>		Figure__
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div> <p>All three diagrams in this row are High = 3 points</p>		

Wetland name or number _____

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i> <input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		
Total for H 1	Add the points in the boxes above	

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat _____ + [(% moderate and low intensity land uses)/2] _____ = _____ % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat _____ + [(% moderate and low intensity land uses)/2] _____ = _____ % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		
Total for H 2	Add the points in the boxes above	

Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		

Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Vernal pools Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <div style="text-align: right;">Yes – Go to SC 1.1 No = Not a vernal pool</div>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March? <div style="text-align: right;">Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics</div>	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <div style="text-align: right;">Yes = Category II No = Category III</div>	Cat. II Cat. III
SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: right;">Yes = Category I No = Not an alkali wetland</div>	Cat. I
SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to SC 3.2 No – Go to SC 3.3</div> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div> SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <div style="text-align: right;">Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV</div> SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <div style="text-align: right;">Yes = Category I No = Not a WHCV</div>	Cat. I

Wetland name or number _____

<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> Yes – Go to SC 4.3 No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 4.3 No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? Yes = Category I bog No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands</p> <p>Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified that a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p>Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>)? Yes = Category I No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? Yes = Category I No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (<i>see Table 7</i>)? Yes = Category II No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? Yes = Category II No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the highest rating if wetland falls into several categories</i></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE:** *This question is independent of the land use between the wetland and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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