# **DESERT CLAIM WIND POWER LLC.**

DESERT CLAIM WIND POWER PROJECT
WETLAND DELINEATION AND ANALYSIS REPORT

APPENDIX C: WETLAND RATING FORMS

# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): First Ck; EDF	Date of site visit: $\frac{7/6}{9/20/17}$			
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 _	$\boxed{\hspace{1cm}}$ (based on functions $\boxed{\hspace{1cm}}$ or special characteristics $\boxed{\hspace{1cm}}$ )			

#### 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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
✓	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Donrossional	
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.

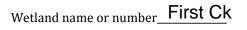
RIVERINE WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)	
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:		
Depressions cover $> \frac{1}{3}$ area of wetland $\Box$ points = 6		
Depressions cover > $^{1}/_{10}$ area of wetland $\Box$ points = 3	1	
Depressions present but cover $< \frac{1}{10}$ area of wetland		
No depressions present		
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):		
Forest or shrub $> \frac{2}{3}$ the area of the wetland $\Box$ points = 10		
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5	0	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	0	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland $\Box$ points = 2		
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ points = 0		
Total for R 1 Add the points in the boxes above	1	
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 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	4	
R 2.1-R 2.4? Source Cattle 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	n the first page	

		-
RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce floo	ding and stream erosion	(only 1 score per box)
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 o	f the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (aver	age width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 2	□ points = 10	8
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	
R 4.2. Characteristics of plants that slow down water velocities during floods: Trea	at large woody debris as forest or	
shrub. Choose the points appropriate for the best description (polygons ne	ed 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	4
Forest or shrub for $\frac{1}{3}$ area OR emergent plants $\frac{2}{3}$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	dd the points in the boxes above	12
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on	the first page
	_	
R 5.0. Does the landscape have the potential to support the hydrologic fur	nctions 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	dd the points in the boxes above	1
Rating of Landscape Potential If score is: 3 = H 2 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? Ch		
the site.	ioose the description that best jus	
The sub-basin immediately down-gradient of site has surface flooding prob	olems that result in damage to	_
human or natural resources	points = 2	1
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveya		0
plan?	Yes = 2(No = 0)	0
Total for R 6	dd the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ½ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2	2
2 checks: points = 1 1 check: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3□No = 0	3
1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
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.  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.	Figure
None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	3

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	3	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
Total for H 1 Add the points in the boxes above	13	
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:		
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 28 = 28 \%$		
> 1/3 (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	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.		
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $44$ = $44$ %		
Undisturbed habitat > 50% of Polygon points = 3	•	
Undisturbed habitat 10 - 50% and in 1-3 patches  points = 2	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)	0	
Does not meet criterion above points = 0	O	
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	0	
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	0	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	1	
Total for H 2 Add the points in the boxes above	4	
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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? <i>Choose the highest score</i>		
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	2	
— 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: $\nabla 2 = H$ $\nabla 1 = M$ $\nabla 0 = I$ Record the rating on the first rage		

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#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.20No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 3.0 mJycin.  — 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	
<del>-</del>	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category I⊙No = Not a WHCV	Cal. I
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	
OYes – Contact WNHP/WDNR and go to SC 3.4ONo = Not a WHCV	
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?	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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	
Wetland name or number		

# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): N2/EDF	Date of site visit: $\frac{7/6}{11/17}$
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 <u>✓</u> N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	5
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	5
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	
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**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  District the slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  points = 3  points = 2  points = 1  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 to	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	T
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 = $1 \times 1000$	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 to	he 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 1 = M 0 = L

Record the rating on the first page

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  Rating of Site Potential If score is: □ 1 = M  □ 0 = L  Record the rating on the surface flows during storms: Choose the points appropriate for the points 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 points = 1  All other conditions	O he 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 to	he 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  No flooding problems anywhere downstream	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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1

H 1.6. <u>Special habitat features</u> Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	1
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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	
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 50 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	2
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	2
Undisturbed habitat 10 - 50% and > 3 patches  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)	0
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	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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	<u> </u>
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	1
— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> <li>Shoreline Master Plan, or in a watershed plan</li> </ul>	
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: $\Box$ 2 = H $\Box$ 1 = M $\Box$ 0 = I Record the rating on the first name	

<u>Rating of Value</u> If score is:  $\square$  **2** = **H**  $\square$  **1** = **M**  $\square$  **0** = **L** Record the rating on the file

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogoNo – Go to SC 4.5	
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?  OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
mucks?	
AND one of the two following conditions is met:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	Cat. I
wetland	
Wettand 5103 - 13 a category i calcareous ien 610 - 13 not a calcareous ien	

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of		
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)			
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream		
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species		
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or		
"old-growth" according to the definitions for the	se priority habitats developed by WDFW		
(see definitions in question H3.1)			
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2		
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I	
of woody species?	OYes = Category IONo − Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II	
OYes = Category IIONo = Not a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>	
Choose the highest rating if wetland falls into several categories	_	NA	
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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	
wenand name or number		

# **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 <u>✓</u> N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 = 19-2	
 Category III - Total score = 16-18	
Category IV — Total score = 9-15	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle	the appropriate ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗀
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	6
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	6
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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
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**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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	0
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the S 2.0. Does the landscape have the potential to support the water quality function at the site?	e 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 2.12  Other sources Cattle  Yes = 1 No = 0	1
Total for S 2 Add the points in the boxes above	2

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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{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  Rating of Site Potential  If score is: \sum 1 = M \sum 0 = L	0
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 = 1	0 1
Rating of Landscape Potential If score is: $\boxed{\square}$ 1 = M $\boxed{\square}$ 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)   '
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood controplan?  Yes = 1 No =	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	2
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats 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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	4
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	1
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	7
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
<u></u>	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 20 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 + 49 = 49 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches (points = 2)	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)	0
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. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes =  No = 0	Ū
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page	•
rating of Editascape Fotential in Score is 4 5 = 11 15 = 11 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1	
H20 bills belief as the best and able to set at 2	
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? <i>Choose the highest score</i>	
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	1
— 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 R)	
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  Site does not meet any of the criteria above  points = 1  points = 0	
<u>Rating of Value</u> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— 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.	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
1 1	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.	Cat. I
OYes = Category IONo= Not an alkali wetland	
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?  Over – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Oyes = Category IONo = Not a WHCV	Cat. I
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	
OYes − Contact WNHP/WDNR and go to SC 3.4©No = Not a WHCV	
COTES - CONTACT MINIPARVINE AND SO TO 2C 2.46000 = NOTA WHEN T	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogono - Go to SC 4.5	
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?  OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
mucks? OYes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6  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:	
	Cat. I
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> <li>— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	Cat. I
wetland	
wetiand	

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets at least one of			
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)			
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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			
(see definitions in question H3.1)			
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2		
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I	
of woody species?	OYes = Category IONo – Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II	
OYes = Category II⊙No = Not a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		N 1 A	
Choose the highest rating if wetland falls into several categories	_	NA	
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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	R1
Wetland name or number	1 / 1

## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R1; EDF	Date of site visit: <u>7/6; 9</u> /20/17
Rated by J. Dirkse; S. Maharry; C. Wallin	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05$ ; $5/14$
HGM Class used for rating Riverine	Wetland has multiple HGM classes?Y   ✓N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 = 19-2		
Category III - Total score = 16-18		
 Category IV - Total score = 9-15		

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle	the appropriate ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Dennesianal	
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 WEILANDS		Points
Water Quality Functions - Indicators that the site functions to improve water	quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		per boxy
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a	flandina avant.	1
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	3
No depressions present	$\square$ points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin	· · · · · · · · · · · · · · · · · · ·	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	
	n the boxes above	3
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\overline{\angle}$ 0-5 = L	Record the rating on	the first nage
<u> </u>	necord the rating on	ine jiist page
R 2.0. Does the landscape have the potential to support the water quality function of the	he 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 h within the last 5 years?	have been clearcut $Yes = 1 (No = 0)$	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 quest	tions	1
R 2.1-R 2.4? Source Cattle	(Yes = 1) No = 0	'
Total for R 2 Add the points i	n 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 drain	s 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 wat YES if there is a TMDL for the drainage in which wetland is found.	er quality? Answer Yes = 2 No = 0	2
Total for R 3 Add the points i	n 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 WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce to	flooding and stream erosion	(only 1 score per box)
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:		T
Estimate the average width of the wetland perpendicular to the direction	on of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (		
width of stream between banks).		
If the ratio is more than 2	points = 10	4.0
If the ratio is 1-2	points = 8	10
If the ratio is ½-<1	points = 4	
If the ratio is ¼-< ½	points = 2	
If the ratio is < 1/4	points = 1	
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 (polygon	s 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	2
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area	☐ points = 4	_
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	12
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on	the first page
<del></del>	J	, , ,
R 5.0. Does the landscape have the potential to support the hydrologic	c functions of the site?	
	Yes = 0(No = 1)	T 4
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = U 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 2 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 so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems	s? Choose the description that hest fits	
the site.	s. enouse the description that sest jus	
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to	
human or natural resources	points = 2	1
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood con	veyance 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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)	2
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.	Figure
None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	2

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	3
Total for H 1 Add the points in the boxes above	12
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $23$ = $23$ % $1/3$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon  10-19% of 1km Polygon  <10% of 1km Polygon  points = 1  points = 0	2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 43 = 43 \%$ Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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 1-3 = M 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:  ✓ 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	2
<u> </u>	

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— 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.	
<b>OR</b> does the wetland unit meet two of the following three sub-criteria?	
<ul> <li>Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.  ○Yes = Category I⊙No= Not an alkali wetland	Cat. I
SC 2.0. Wetlands of High Conservation Value (WHCV)	
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?  Over – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.30No – Go to SC 4.2	
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? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	0.1.1
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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 (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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	Date of site visit: $\frac{7/6}{9/20/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
HGM Class used for rating Riverine	N Wetland has multiple HGM classes?YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
1. Category of wetland based o	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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

**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	Depressional
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
Water Quality Functions - Indicators that the site functions to improve wat	er quality	(only 1 score per box)
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 duri	ng a flooding event:	
Depressions cover > 1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa	·	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the poi	nts in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 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?	T
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 the within the last 5 years?	hat have been clearcut 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 o	juestions	4
R 2.1-R 2.4? Source Cattle	Yes = 1) No = 0	1
Total for R 2 Add the poi	nts 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 of	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 YES if there is a TMDL for the drainage in which wetland is found.	water quality? Answer Yes = 2 No = 0	2
Total for R 3 Add the poi	nts in the boxes above	2
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2	on of the flow and the width of the	10
If the ratio is ½-<1 If the ratio is ¼-< ½ If the ratio is < ¼	points = 4 points = 2 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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 a	he 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	he first page
R 6.0. Are the hydrologic functions provided by the site valuable to soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood convey	veyance in a regional flood control Yes = 2 No = 0	0
Total for R 6	Add the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on a	he first page

These questions apply to wetlands of all HGM classes.	(only 1 score per
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 (No = 0)	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	6
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H20 December to the control of the c	
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: $Calculate:$ % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> 1/3 (33.3%) of 1 km Polygon points = 3	3
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0	
<10% of 1km Polygon points = 0  H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $\frac{0}{0}$ + [(% moderate and low intensity land uses)/2] $\frac{50}{0}$ = $\frac{50}{0}$ %	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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)	0
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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	0
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is:	
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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
— 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	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
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	
	l

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
— Surface water is present for less than 120 days during the wet season.	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
	Cut. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  OYes – Go to SC 3.2 ONo – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Ores = Category IONo = Not a WHCV	Cat. I
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	
<b>OYes − Contact WNHP/WDNR and go to SC 3.4©</b> No = <b>Not a WHCV</b>	
· · · · · · · · · · · · · · · · · · ·	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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	ļ
and the plant species in Table 5 are present, the wetland is a bog.	ļ
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	cut. I
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you he in question H 1.1)	ave identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain</li> </ul>	of a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at leas</li> </ul>	t 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		
(see definitions in question H3.1)		
OYes – Go to <b>SC 5.1</b>	t a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than	50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen (Populus tren		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by		Cat. II
cover) are fast growing species (see Table 7)?  SC 5.4. Is the forested component of the wetland within the 100	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Ores = Category IIONo = Not a forested wetland with special characteristics		Cat. II
Category of wetland based on Special Characteristics		
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sum	nmary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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## **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	Date of site visit: $\frac{7/6}{9/20/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
HGM Class used for rating Riverine	N Wetland has multiple HGM classes?YN
	t <b>the figures requested</b> ( <i>figures can be combined</i> ). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
1. Category of wetland based o	n FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle	the appropriate ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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
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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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.

RIVERINE WEILANDS	/anh. 1 accus
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 $>^1/_3$ area of wetland $\Box$ points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland $\Box$ points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland $\boxed{\ }$ points = 1	
No depressions present  points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland $\Box$ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	0
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland $\square$ points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\boxed{\checkmark}$ points = 0	
Total for R 1 Add the points in the boxes above	1
<b>Rating of Site Potential</b> If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating on t	he 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 = $1 \text{ No} = 0$	0
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants Yes = $1 \text{ No} = 0$	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions	4
R 2.1-R 2.4? Source Cattle (Yes = 1) No = 0	1
Total for R 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is: $\square$ 3-6 = H $\square$ 1 or 2 = M $\square$ 0 = L Record the rating on t	he 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	2
YES if there is a TMDL for the drainage in which wetland is found. (Yes = 2) No = 0	
Total for R 3 Add the points in the boxes above	2

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: ( width of stream between banks).		
If the ratio is more than 2	points = 10	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	
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygon height. These are NOT Cowardin classes).	s need to have > 90% cover at person	
Forest or shrub for more than $^2/_3$ the area of the wetland	points = 6	0
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	10
Rating of Site Potential If score is: ☐ 12-16 = H	Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic		<u> </u>
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 so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream		1
R 6.2. Has the site been identified as important for flood storage or flood con plan?	veyance in a regional flood control 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 2 1 = M 0 0 = L	Record the rating on	the first page

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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  4 or more checks: points = 3	0
Forested (areas where trees have >30% cover)  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	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
Riparian braided channels with 2 classes	

	1
H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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:	
Table 1 Accessible Habitat (only area of Habitat abutting wetland). It total accessible Habitat is.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  > $\frac{1}{3}$ (33.3%) of 1 km Polygon  20-33% of 1km Polygon  points = 2  10-19% of 1km Polygon  c10% of 1km Polygon  points = 0	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  Undisturbed habitat < 10% of Polygon	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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 1-3 = M 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)  Site does not meet any of the criteria above	1

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
— Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater.	
input.	
<ul> <li>Wetland plants are typically present only in the spring; the summer vegetation is typically upland</li> </ul>	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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).	
<ul> <li>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.</li> </ul>	
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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	Cat. I
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
OYes — Contact WNHP/WDNR and go to SC 3.4 ONO = Not a WHCV	
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?	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to <b>SC 4.3O</b> No – Go to <b>SC 4.2</b>	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )				
				— The wetland is within the 100 year floodplain of a river or stream
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or</li> </ul>				
			"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I		
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2			
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?	OYes = Category IONo − Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II		
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics				
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		N I A		
Choose the highest rating if wetland falls into several categories		NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R106/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	32
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	32
(can be added to figure above)		32
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	32
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional	
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  Disposit of the standard properties of the slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  points = 3  points = 2  points = 1  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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 score is: □ 12 = H □ 6-11 = M □ 0-5 = L   Record the rating on the score is: □ 12 = H □ 6-11 = M □ 0-5 = L   Record the rating on the score is: □ 12 = H □ 12 = H □ 13 = H □ 14 = H □ 15	ne 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 = $1 \text{ No} = 0$	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:  $\boxed{\square}$  1-2 = M  $\boxed{\square}$  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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{1}{g} 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  Record the rating on a stating of Site Potential  Record the rating on a stating of Site Potential	0 the first pag
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
Record the rating on a lating of Landscape Potential If score is:	the first pag
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  No flooding problems anywhere downstream	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2(No = 0)

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HARITAT ELINGTIONS Indicators that site tunctions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edgeEmergent or shrub vegetation in areas that are permanently inundated/ponded.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2] = 50 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	2
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	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:	0
> 50% of Polygon is high intensity land use points = (- 2)	0
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. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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? <i>Choose the highest score</i>	
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	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
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	
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> 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.

Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
— Surface water is present for less than 120 days during the wet season.	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ of the plant cover consists of species listed on Table 4	
<ul> <li>— 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.</li> <li>         OYes = Category IONo= Not an alkali wetland     </li> </ul>	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?  OYes – Go to SC 3.2 ONo – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Otes = Category IONo = Not a WHCV	Cat. I
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	
(Dyes - Contact WNHP/WDNR and go to SC 3.4@No = Not a WHCV	
OYes − Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bogONo – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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## **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	Date of site visit: $\frac{7/6}{9/20/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes?YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
1. Category of wetland based o	n 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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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		(only 1 score
Water Quality Functions - Indicators that the site functions to improve wa	iter quality	per box)
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 dur	ing a flooding event:	
Depressions cover $>^1/_3$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland	✓ points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cow	ardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the po	ints in the boxes above	1
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on t	he 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 twithin the last 5 years?	that have been clearcut 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	4
R 2.1-R 2.4? Source Cattle	Yes = 1) No = 0	1
	ints 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 t	he 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?		0
	Yes = 1 No = 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	-	2
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	_
Total for R 3 Add the po	pints 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

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  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control yes = 2 No = 0  0			
R 4.0. Does the site have the potential to reduce flooding and 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  If the ratio is more than 2  If the ratio is ½-<1  If the ratio is ½-<2  If the ratio is ½-<3  If the ratio is ½-√3  If the	RIVERINE WETLANDS		
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  If the ratio is more than 2  If the ratio is ½-4  If the ratio is ½-5  If the ratio is ½-6  If the ratio is ½-7  If the ratio is ½-8  If the ratio is ½-8  If the ratio is ½-9  If the ratio is ½-1  If the ratio is ½-8  If the ratio is ½-9  If the ratio is ½-1  If	Hydrologic Functions - Indicators that site functions to reduce f	looding and stream 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). Between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks). If the ratio is more than 2	R 4.0. Does the site have the potential to reduce flooding and erosion?	,	•
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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  If the ratio is M-C1  If the ratio is M-C2  If the ratio is M-C3  If the ratio is M-C4  If the	_ ,	on of the flow and the width of the	
If the ratio is more than 2			
If the ratio is 1-2 If the ratio is 1-2 If the ratio is ½-<1 If ratio for R5 If the ratio for Pa is 2 If the ratio for Pa is 2 If the ratio for Pa is 2 If the ratio is 2 If the ratio for Pa is 2 If the ratio	width of stream between banks).		
If the ratio is 1-2	If the ratio is more than 2	points = 10	10
If the ratio is %<%   points = 2   fit the ratio is 5 %   points = 1   fit the ratio is 5 %   points = 1   fit the ratio is 5 %   points = 1   points = 2   points = 1   points = 2   points = 1   points = 2   points = 0   point	If the ratio is 1-2	points = 8	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 <sup>2</sup> / <sub>3</sub> the area of the wetland points = 6 Forest or shrub for > <sup>1</sup> / <sub>10</sub> area OR emergent plants > <sup>2</sup> / <sub>3</sub> area  Plants do not meet above criteria  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  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  Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream points = 0  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control pain?	If the ratio is ½-<1	points = 4	
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 ½, the area of the wetland  Forest or shrub for more than ½, the area of the wetland  Forest or shrub for > 1/3 area OR emergent plants > 1/3 area  Plants do not meet above criteria  Total for R 5  Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.4. Add the points in the boxes above  R 6.6. 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  Surface flooding problems are in a basin farther down-gradient  No flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control palan?	If the ratio is ¼-< ½	points = 2	
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 <sup>2</sup> / <sub>3</sub> the area of the wetland Forest or shrub for > <sup>1</sup> / <sub>3</sub> area OR emergent plants > <sup>2</sup> / <sub>3</sub> area Plants do not meet above criteria  Total for R 5  Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.4. Add the points in the boxes above  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  Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Source of the regional flood control plan?	If the ratio is < 1/4	points = 1	
Forest or shrub for >¹/₃ the area of the wetland Forest or shrub for >¹/₃ the area of the wetland Forest or shrub for >¹/₃ area OR emergent plants >²/₃ area Forest or shrub for >¹/₃ area OR emergent plants >²/₃ area Plants do not meet above criteria  Total for R 5  Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.4. Does the hydrologic functions provided by the site valuable to society?  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 Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	R 4.2. Characteristics of plants that slow down water velocities during floods:	Treat large woody debris as forest or	
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Forest or shrub for > \(^1/3\) area OR emergent plants > \(^2/3\) area Forest or shrub for > \(^1/10\) area OR emergent plants > \(^1/3\) area Plants do not meet above criteria  Total for R 5  Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add the points in the boxes above  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 Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Points = 1 Points = 2 Plants do not meet above criteria  Add the points in the boxes above  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  Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control yes = 2 No = 0  O			
Forest or shrub for > \frac{1}{10} area OR emergent plants > \frac{1}{3} area Plants do not meet above criteria  Total for R 5  Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.3. Is the up-gradient stream or river controlled by dams?  R 5.4. Does the hydrologic functions provided by the site valuable to society?  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  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		points = 6	0
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Add the points in the boxes above  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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Yes = 1 No = 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 10 o = 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  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control year?  No elocation the first page  10  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control yes = 2 No = 0	2 1	points = 2	
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?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add the points in the boxes above  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  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream  R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  R 6.2. No end the rating on the first page and the points in the boxes above the description that best fits are points and the site and the points in the boxes above the description that best fits are points and the site and the site and the points in the boxes above the site and the points in the first page are points and the points are points and the first page are points and the points are points and the first page are points and the points are points and points are points and points are points and poin	Plants do not meet above criteria	points = 0	
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plan? Yes = 2 No = 0	No flooding problems anywhere downstream	points = 0	
plan? Yes = 2 No = 0	R 6.2. Has the site been identified as important for flood storage or flood con-	veyance in a regional flood control	_
	·	•	0
	·		1
	Rating of Value If score is: 2-4 = H 2 1 = M 0 = L	Record the rating on t	

HARITAT ELINCTIONS Indicators that site tunctions to provide important habitat	score per box)
	,
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points ✓  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	0
·	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
> 1/3 (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
· ·	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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:  $\square$  2 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bogONo – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
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.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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## **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	34
(can be added to figure above)		34
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	34
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4E/4C
polygons for accessible habitat and undisturbed habitat		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.	•	on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u>e</u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream character stream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.		hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number R109

**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	4
Slope is > 1% - 2%	ı
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants  points = 1  points = 0	
·	4
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on to	he 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?	4
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	he 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 to	he first page

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	0	
Rating of Site Potential If score is: □ 1 = M □ 0 = L Record the rating on t	he 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 = $1 \times 10^{-5}$ No = $0$	0	
Rating of Landscape Potential If score is: 1 = M 0 = L Record the rating on the		
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 = 0	1	

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

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 >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  ✓ Emergent plants >1.2 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >1.2 40 in (>30-100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  — Scrub-shrub (areas where shrubs have >30% cover)  — Scrub-shrub (areas where shrubs have >30% cover)  — Scrub-shrub (areas where trees have >30% cover)  — 1 check: points = 1  1 check: points = 1  1 check: points = 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 % ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Loke Fringe wetlands.  — Yes = 1 10 = 0  H 1.3. 2 Lobes the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  — Yes = 3 IZNO = 0  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 conarygrass, purple loosestrife, Russian olive, Phragmites, Conadian thistic, yellow-flag iris, and saltcedar (Tamarisk)  # of species	These questions apply to wetlands of all HGM classes.	(only 1
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 >> % or or >> 10% of the wetland if wetland is <2.5 ac.  Aquatic bed  Y 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 >21-40 in (>30-100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs 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?  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least % ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Loke Fringe wetlands.  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 % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Wes = 3 points & go to H 1.4.8 No.  Wes = 3 points & go to H 1.3.2 is No.  Do not include Eurosian millfoll, reed canarygass, purple loosestrife, Russian olive, Phragmites, Canadian thistie, yellow-flag iris, and saltcedar (Tamarisk)  # of species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurosian millfoll, reed canarygass, purple loosestrife, Russian olive, Phragmites, Canadian thistie, yellow-flag iris, and saltcedar (Tamarisk)  # of species go of Cowardin and emergent plant classes or other of 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.  Use map of Cowardin and emergent plant classes or preder or weetsions H 1.1 and map of open water from H 1.3. If you have four o	HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	•
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  ✓ Emergent plants >1.2 in (0.30 cm) high are the highest layer and have > 30% cover  Emergent plants >1.2 in (0.30 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 1 check: points = 0  H 1.2. Is one of the vegetation types Aquatic Bed?  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 % 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.  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 % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3\times No = 0  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 miljoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species  Scoring: > 9 species: points = 0  4 4 species: points = 0  A 5 points = 0  A 4 species: points = 0  A 5 points = 0  A 5 points = 0  A 6 points = 0  A 7 points = 0  A 8 points = 0  A 8 points = 0  A 9 points = 0  A 9 points = 0  A 9 points = 0  A 1.1. Alithered diagrams below	H 1.0. Does the wetland have the potential to provide habitat for many species?	
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)  1 3 checks: points = 2 2 checks: points = 0 1 (check: points =	category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover	0
H 1.3. 1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  H 1.3.1. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 Species: points = 1  <	Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  3 checks: points = 2 2 checks: points = 1	Ü
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ 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 ft². 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	H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	0
Count the number of plant species in the wetland that cover at least 10 ft². 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 <	10% of its area during the March to early June <b>OR</b> in August to the end of September? <b>Answer YES</b> for Lake Fringe wetlands. □ 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 ¼ ac or 10% of its area? <b>Answer yes only if H 1.3.1 is No.</b>	0
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.  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.  None = 0 points    None = 1 point   Moderate = 2 points   O  All three diagrams in this row are   High = 3 points   O	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	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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H 2.0. Doos the landscape have the notential to support habitat functions of the site?	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ % > $^{1}$ / <sub>3</sub> (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.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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)  Site does not meet any of the criteria above	1
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
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? See Appendix C for a field key to		
identify organic soils. OYes – Go to <b>SC 4.30</b> No – Go to	-	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in d		
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or		
pond? OYes – Go to SC 4.3ONo = Is not a bog fo		
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least	_	
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to		
<b>NOTE:</b> 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 that		
and the plant species in Table 5 are present, the wetland is a bog.		
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	า	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I	
OYes = Category I bog No – Go to		
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peat.		
mucks?		
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		
AND one of the two following conditions is met:	,	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations with		
wetland OYes = Is a Category I calcareous fenONo = Is not a calcare		

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets at least one of				
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)				
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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				
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 5	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 (see Table 7)?	OYes = Category IONo – Go to SC 5.2			
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?	OYes = Category IONo − Go to SC 5.3			
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 (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II		
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>		
Choose the highest rating if wetland falls into several categories	_	NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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	Date of site visit: 7/0, 9/21/17  _ Trained by Ecology? ✓ Yes No Date of training 9/05; 5;14
HGM Class used for rating Slope	Y   Wetland has multiple HGM classes?Y   N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	atings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	34
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional	
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	1
Slope is > 1% - 2%	ı
Slope is > 2% - 5%	
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)	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	0
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants  Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	•
Record the ruting of the	ic jiist 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 \$ 2.1?	4
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	he 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)?	0
Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource</i> in the	1
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	2
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	3
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	
RACINE OF VALUE IT SCOLE IS: " Z-4 = T	ie iiist baae

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  ating of Site Potential  If score is:	O the first pag
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
ating of Landscape Potential If score is:  1 = M 0 = L Record the rating on t	the first pag
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
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	
H 1.5. Interspersion of habitats	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	0

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
137	3
20-33% of 1km Polygon  points = 2	Ū
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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 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 mapped as a location for an individual work species  — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
— 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	
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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	Date of site visit: 7/6; 9/20/17  _ Trained by Ecology? ✓ Yes No Date of training 9/05; 5/14
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
NOTE: Form is not complete without  Source of base aerial photo/map_	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions $\checkmark$ 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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
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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5	Your wetland unit seems to be difficult to classify and probably contains several different HCM

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	Depressional	
the boundary of depression)		
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
Water Quality Functions - Indicators that the site functions to improve wa	ter quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	1 /	per boxy
		T
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments duri	=	
Depressions cover > \frac{1}{3} area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	3
Depressions present but cover < 1/10 area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa	· ·	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	
Total for R 1 Add the poi	nts in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 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 the		0
within the last 5 years?	Yes = 1 (No = 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 o	questions	1
R 2.1-R 2.4? Source Cattle	(Yes = 1 )No = 0	'
Total for R 2 Add the poi	nts 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?	arams to one within 1	
	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	/	2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2 )No = 0	_
·	ints in the boxes above	2
Rating of Value If score is:	Record the rating on	the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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 soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conv plan?	veyance in a regional flood control Yes = 2 (No = 0)	0
Total for R 6	Add the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  Forested (areas where trees have >30% cover)  1 checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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. □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.	Figure
None = 0 points ✓  Low = 1 point  Moderate = 2 points  High = 3 points	0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> 1/3 (33.3%) of 1 km Polygon points = 3	
	3
, ,	· ·
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	_
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
The second seco	
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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
— 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	
points o	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	•
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bogONo – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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## **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	Date of site visit: Trained by Ecology? ✓ Yes No Date of	of training <u>9/05; 5/1</u> 4
HGM Class used for rating Riverine	Wetland has multiple HGM classes?	, ✓ <sub>Y</sub> N
	the figures requested (figures can be comb Google Earth; GPS data; GIS data	ined). 
OVERALL WETLAND CATEGORY _	(based on functions or special cha	racteristics)
1. Category of wetland based or	n FUNCTIONS	Coore for cook

 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 ro	ntings	
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	6	6	6	18

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H8 = H,H,M7 = 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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Donrossional	
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
Water Quality Functions - Indicators that the site functions to improve wa	ter quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	. ,	per boxy
		<u> </u>
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments duri		
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover > $\frac{1}{10}$ area of wetland Depressions present but cover < $\frac{1}{10}$ area of wetland	points = 3	3
No depressions present	$\square$ points = 1 $\square$ points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa	· ·	
Forest or shrub > $^2/_3$ the area of the wetland		
Forest or shrub $^{2}$ / <sub>3</sub> the area of the wetland	points = 5	
Ungrazed, herbaceous plants $> {}^2/_3$ area of wetland	points = 5	0
Ungrazed herbaceous plants $^{2}$ / <sub>3</sub> area of wetland	□ points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
	· · · · · · · · · · · · · · · · · · ·	
Total for R 1 Add the poi	nts in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 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 the	hat have been clearcut	0
within the last 5 years?	Yes = 1 (No = 0)	U
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 o		1
R 2.1-R 2.4? Source Cattle	(Yes = 1 )No = 0	•
Total for R 2 Add the poi	nts 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	he 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?		0
	Yes = 1(No = 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	2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2 )No = 0	
Total for R 3 Add the pol	ints in the boxes above	2
Rating of Value If score is: $\boxed{2}$ 2-4 = H $\boxed{1}$ 1 = M $\boxed{0}$ 0 = L	Record the rating on	the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce floo	ding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (average) width of stream between banks).	rage width of wetland)/(average	
If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is < ¼	<ul> <li>✓ points = 10</li> <li>─ points = 8</li> <li>─ points = 4</li> <li>─ points = 2</li> <li>─ points = 1</li> </ul>	10
R 4.2. Characteristics of plants that slow down water velocities during floods: Tre shrub. Choose the points appropriate for the best description (polygons ne height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland  Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area  Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area  Plants do not meet above criteria		0
Total for R 5	dd the points in the boxes above	10
Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L  R 5.0. Does the landscape have the potential to support the hydrologic full	Record the rating on	the first page
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	dd the points in the boxes above	1
Rating of Landscape Potential If score is: 3 = H 2 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	y?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Conthe site.  The sub-basin immediately down-gradient of site has surface flooding prohuman or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conveys plan?	ance in a regional flood control $Yes = 2 (No = 0)$	0
Total for R 6	dd the points in the boxes above	1
Rating of Value If score is: 2-4 = H 2 1 = M 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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	
H 2.0. Door the landscape have the notential to support habitat functions of the site?	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	2
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + ((\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	3
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	3
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:	
	0
> 50% of Polygon is high intensity land use	U
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3(No = 0)	
Total for H 2 Add the points in the boxes above	6
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	
points of	

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
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? See Appendix C for a field key to		
identify organic soils. OYes – Go to <b>SC 4.30</b> No – Go to	-	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in d		
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak	-	
pond? OYes – Go to SC 4.3ONo = Is not a bog fo		
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least	_	
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to		
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that co		
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less that		
and the plant species in Table 5 are present, the wetland is a bog.		
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I	
OYes = Category I bog No – Go to		
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peat.		
mucks?		
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		
AND one of the two following conditions is met:	,	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations with		
wetland OYes = Is a Category I calcareous fenONo = Is not a calcare		

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )			
			<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or</li> </ul>			
			"old-growth" according to the definitions for these priority habitats developed by WDFW
(see definitions in question H3.1)			
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2		
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?	OYes = Category IONo − Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?			
	a forested wetland with special characteristics		
Category of wetland based on Special Characteristics		NA	
Choose the highest rating if wetland falls into several categories			
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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### **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R116/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5;14}{2}$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	36
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	36
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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.

<u>=====================================</u>	(only 1
Water Quality Functions - Indicators that the site functions to improve water quality	score per box)
S 1.0. Does the site have the potential to improve water quality?	БОЛ
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	4
Slope is > 1% - 2%	I
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants  points = 1  points = 0	
· · · · · · · · · · · · · · · · · · ·	_
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	0
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	1
	4
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	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	T
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	1
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	2
Total for S 3 Add the points in the boxes above	3

SLOPE WETLANDS

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

Points

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 1  points = 0	0
tating of Site Potential If score is: □ 1 = M □ 0 = L  Record the rating on a	he first pag
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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	0
Record the rating on a lating of Landscape Potential If score is:	he first pag
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
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2(No = 0

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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% coverEmergent plants > 40 in (> 100 cm) high are the highest layer with >30% coverScrub-shrub (areas where shrubs have >30% cover)	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  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 ft². 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 interspersion 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.  None = 0 points ✓  Low = 1 point ✓  Moderate = 2 points ✓  High = 3 points ✓	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H 2.0. Doos the landscape have the notential to support habitat functions of the site?	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $47$ = $47$ % > $^{1}$ / <sub>3</sub> (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.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $49$ = $49$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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)  Site does not meet any of the criteria above	1
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

### **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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### **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? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	atings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	34
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	24
(can be added to figure above)		34
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	34
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ½ of area  Does not meet any of the criteria above for plants	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	ne 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	ne 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	he first page

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  Rating of Site Potential  If score is: □ 1 = M  □ 0 = L  Record the rating on t  S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	O he first page
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:	he 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  points = 1	1

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

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

No flooding problems anywhere downstream

Record the rating on the first page

0

1

points = 0

Yes = 2 (No = 0)

Add the points in the boxes above

**NOTES and FIELD OBSERVATIONS:** 

plan?

Total for S 6

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 >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  ✓ Emergent plants >1.2 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >1.2 40 in (>30-100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  — Scrub-shrub (areas where shrubs have >30% cover)  — Scrub-shrub (areas where trees have >30% cover)  — Scrub-shrub (areas where trees have >30% cover)  — 1 check: points = 1  1 check: points = 1  1 check: points = 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 % ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Loke Fringe wetlands.  — Yes = 3 points & 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 % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  — Yes = 3 kino = 0  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 conarygrass, purple loosestrife, Russian olive, Phragmites, Conadian thistic, yellow-flag iris, and saltcedar (Tamarisk)  # of species	These questions apply to wetlands of all HGM classes.	(only 1
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 >> % or or >> 10% of the wetland if wetland is <2.5 ac.  Aquatic bed  Y 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 >21-40 in (>30-100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs 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?  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least % ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Loke Fringe wetlands.  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 % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Wes = 3 points & go to H 1.4.8 No.  Wes = 3 points & go to H 1.3.2 is No.  Do not include Eurosian millfoll, reed canarygass, purple loosestrife, Russian olive, Phragmites, Canadian thistie, yellow-flag iris, and saltcedar (Tamarisk)  # of species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurosian millfoll, reed canarygass, purple loosestrife, Russian olive, Phragmites, Canadian thistie, yellow-flag iris, and saltcedar (Tamarisk)  # of species go of Cowardin and emergent plant classes or other of 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.  Use map of Cowardin and emergent plant classes or preder or weetsions H 1.1 and map of open water from H 1.3. If you have four o	HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	•
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  ✓ Emergent plants >1.2 in (0.30 cm) high are the highest layer and have > 30% cover  Emergent plants >1.2 in (0.30 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 1 check: points = 0  H 1.2. Is one of the vegetation types Aquatic Bed?  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 % 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.  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 % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3\times No = 0  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 miljoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species  Scoring: > 9 species: points = 0  4 4 species: points = 0  A 5 points = 0  A 4 species: points = 0  A 5 points = 0  A 5 points = 0  A 6 points = 0  A 7 points = 0  A 8 points = 0  A 8 points = 0  A 9 points = 0  A 9 points = 0  A 9 points = 0  A 1.1. Alithered diagrams below	H 1.0. Does the wetland have the potential to provide habitat for many species?	
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)  1 3 checks: points = 2 2 checks: points = 0 1 (check: points =	category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover	0
H 1.3. 1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  H 1.3.1. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 Species: points = 1  <	Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  3 checks: points = 2 2 checks: points = 1	Ü
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ 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 ft². 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	H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	0
Count the number of plant species in the wetland that cover at least 10 ft². 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 <	10% of its area during the March to early June <b>OR</b> in August to the end of September? <b>Answer YES</b> for Lake Fringe wetlands. □ 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 ¼ ac or 10% of its area? <b>Answer yes only if H 1.3.1 is No.</b>	0
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.  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.  None = 0 points    None = 1 point   Moderate = 2 points   O  All three diagrams in this row are   High = 3 points   O	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	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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H 2.0. Doos the landscape have the notential to support habitat functions of the site?	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ % > $^{1}$ / <sub>3</sub> (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.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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)  Site does not meet any of the criteria above	1
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

### **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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### **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? $\checkmark$ Yes No Date of training $9/05$ ; $5/14$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	27
(can be added to figure above)		37
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	37
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
the boundary of depression)	Бергеззіона
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 quality	conty 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  District the points in the point of the point o	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants  Does not meet any of the criteria above for plants	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 2 0-5 = L Record the rating on the	e 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	e first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	

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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

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 > \frac{1}{8} in), or dense enough, to remain erect during surface flows.  Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 1	0
Rating of Site Potential If score is: $\Box$ 1 = M $\Box$ 0 = L Record the rating on t	he 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 = $1 \text{ No} = 0$	0
Rating of Landscape Potential If score is:1 = M0 = L	he 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 = 0	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

**NOTES and FIELD OBSERVATIONS:** 

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	0

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs,	2
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L	
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:	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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)  Site does not meet any of the criteria above  points = 0	1
<u>Rating of Value</u> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? 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.		
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? See Appendix C for a field key to		
identify organic soils.		
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? OYes – Go to SC 4.3 No = Is not a bog for rating		
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?  OYes = Category I bogONo – Go to SC 4.4		
<b>NOTE:</b> 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	ļ	
and the plant species in Table 5 are present, the wetland is a bog.	ļ	
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	Cat. I	
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	cut. I	
OYes = Category I bogONo – Go to SC 4.5		
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?		
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:		
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the		
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen		

SC 5.0. Forested Wetlands						
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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		
				(see definitions in question H3.1)	. , ,	
				Oyes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
				SC 5.1. Does the wetland have a forest canopy where more than 5	es the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2					
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?	OYes = Category IONo − Go to SC 5.3					
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II				
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4					
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Ores = Category IIONo = Not a forested wetland with special characteristics		Cat. II				
	a forested wetland with special characteristics					
Category of wetland based on Special Characteristics		N I A				
Choose the highest rating if wetland falls into several categories		NA				
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form					

### **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: 7/0, 9/21/17  _ Trained by Ecology? ✓ Yes No Date of training 9/05; 5;14
HGM Class used for rating Slope	Y   Wetland has multiple HGM classes?Y   N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	atings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	37
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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%	1
Slope is > 2% - 5%	
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)	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	0
Dense, uncut, herbaceous plants > ½ of area	J
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	0
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?	4
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	ne first page
<u>—————————————————————————————————————</u>	, , ,
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
	2
'	3
Rating of Value If score is: $\boxed{2}$ 2-4 = H $\boxed{2}$ 1 = M $\boxed{2}$ 0 = L Record the rating on the	ne first page

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  Record the rating on t	0
Necoru the ruting on t	ne jirst 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	
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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1	0
1 check: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.	Figure
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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	2
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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
II 2.0. Does the landscape baye the notantial to support habitet functions of the site?	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $49$ = $49$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon (points = 3)	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 49 = 49 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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:	0
> 50% of Polygon is high intensity land use	0
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	0
irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs  Yes = $3 \text{ (No = 0)}$	U
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page	<u> </u>
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	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
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	
Pating of Value If scars is	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? 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.	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland hased on its functions.	
you will still need to rate the westaina based on its junctions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to <b>SC 4.3O</b> No = <b>Is not a bog for rating</b>	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
3.03 15 2 3213g2.1, 1 32132.33 131.3.13 15 110 110 tu tulturious tult	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: 7/6; 9/21/17  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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	37
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	37
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional	
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per
S 1.0. Does the site have the potential to improve water quality?	box)
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	4
Slope is > 1% - 2%	1
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	_
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	1
Other sources Cattle Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is:	he 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: $\sqrt{2.4} = H$ $\sqrt{1} = M$ $\sqrt{0} = I$	he first nage

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	
tating of Site Potential If score is: □ 1 = M	on the first pag
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
tating of Landscape Potential If score is: ☐ 1 = M ☑ 0 = L  Record the rating of Landscape Potential If score is: ☐ 1 = M ☑ 0 = L	on the first pag
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 = 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

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Total for S 6

Add the points in the boxes above

1

Record the rating on the first page

These questions apply to wetlands of all HGM classes.	(only 1
HARITAT ELINGTIONS Indicators that site tunctions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points ✓  Low = 1 point ✓  Moderate = 2 points ✓  All three diagrams in this row are High = 3 points ✓	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $49$ = $49$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
	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.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 $	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	I
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	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R135; EDF	Date of site visit: $\frac{7/6}{9}$ 20/17
Rated by J. Dirkse; S. Maharry, C. Wallin	Date of site visit: 170, 3/20/17  _ Trained by Ecology? ✓ Yes No Date of training 9/05; 5/14
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	$\boxed{\hspace{1cm}}$ (based on functions $\boxed{\hspace{1cm}}$ or special characteristics $\boxed{\hspace{1cm}}$ )

#### 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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Donrossional	
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	
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	por sorry
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 $\Box$ points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland $\Box$ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland points = 1	
No depressions present points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	U
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\bigcirc$ points = 0	
Total for R 1 Add the points in the boxes above	3
<b>Rating of Site Potential</b> If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 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 Cattle Yes = 1 No = 0	1
	1
Rating of Landscape Potential If score is: $\square$ 3-6 = H $\square$ 1 or 2 = M $\square$ 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 or	the first page

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).	average width of wetland)/(average	
If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-<½  If the ratio is <¼	<ul> <li>✓ points = 10</li> <li>─ points = 8</li> <li>─ points = 4</li> <li>─ points = 2</li> <li>─ points = 1</li> </ul>	10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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  R 5.0. Does the landscape have the potential to support the hydrologic	Record the rating on	the first page
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 soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conveplan?	veyance in a regional flood control 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
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	2	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	3	
·	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:		
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 %$		
> 1/3 (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	3	
10-19% of 1km Polygon points = 1		
<10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.		
50 50		
Undisturbed habitat > 50% of Polygon  points = 3	2	
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)	0	
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	3	
reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		
Total for H 2 Add the points in the boxes above	8	
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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		
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>		
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	4	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1	
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		
·		

<u>Rating of Value</u> If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **0 = L** *Re* 

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	
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.		
SC 1.0. Vernal pools		
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.		
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as		
basalt or clay.		
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>		
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>		
SC 1.1. Is the vernal pool relatively undisturbed in February and March?		
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics		
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II	
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III		
	Cat. III	
SC 2.0. Alkali wetlands		
Does the wetland meet <b>one</b> of the following criteria?		
— The wetland has a conductivity > 3.0 mS/cm.		
— 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		
<del>-</del>		
— More than ¾ 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	Cat. I	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti	
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? OYes – Go to SC 3.2 No – Go to SC 3.3		
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat I	
OYes = Category IONo = Not a WHCV	Cat. I	
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		
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? OYes = Category IONo =Not a WHCV		

Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? 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.	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland hased on its functions	
you will still need to rate the westand based on its junctions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to <b>SC 4.3O</b> No = <b>Is not a bog for rating</b>	
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?   OYes = Category I bogONo – 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.	
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	Cat
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
Ones is a same gen production of the following same and the same and t	

SC 5.0. Forested Wetlands					
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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		
			(see definitions in question H3.1)		
			OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
			SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2				
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?	OYes = Category IONo − Go to SC 5.3				
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II			
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4				
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Ores = Category IIONo = Not a forested wetland with special characteristics		Cat. II			
	a forested wetland with special characteristics				
Category of wetland based on Special Characteristics		N I A			
Choose the highest rating if wetland falls into several categories		NA			
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form				

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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?YN			
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 (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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
the boundary of depression)	Бергеззіона
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
Water Quality Functions - Indicators that the site functions to improve water	er quality	(only 1 score per box)
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 durin	ng a flooding event:	
Depressions cover > 1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	✓ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cowar	rdin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the poin	its 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 t	he first page
R 2.0. Does the landscape have the potential to support the water quality function of	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 th within the last 5 years?	at have been clearcut 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 qu	uestions	
R 2.1-R 2.4? Source Cattle	Yes = 1) No = 0	1
	its 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 t	<b>I</b>
	neces a conditioning cons	e jet 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 d	rains 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 YES if there is a TMDL for the drainage in which wetland is found.	water quality? Answer Yes = 2 No = 0	2
Total for R 3 Add the poir	nts 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 WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ½-<½  If the ratio is <½- </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream		1
R 6.2. Has the site been identified as important for flood storage or flood convergence.	veyance in a regional flood control Yes = 2 No = 0	0
Total for R 6	Add the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	
H 1.5. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points    Low = 1 point	0

	1
H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  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	
11.2.0. Does the landscape have the netential to support habitet functions of the site?	
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:	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 \%$ Undisturbed habitat > 50% of Polygon points = 3  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  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  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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)  Site does not meet any of the criteria above	1

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<del>_</del>	
— Salt encrustations around more than 75% of the edge of the wetland	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.30No – Go to SC 4.2	
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? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	0.1.1
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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 (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
— 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	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ⊙No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?   OYes = Category IONo – Go to SC 5.3	
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	NA
If you answered No for all types, enter "Not Applicable" on Summary Form	147

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes?Y ✓_N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	$\overline{\hspace{1cm}}$ (based on functions $\overline{\hspace{1cm}}$ or special characteristics $\overline{\hspace{1cm}}$ )

#### 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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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
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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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.

RIVERINE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve was	er quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		per box)
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments duri	•	
Depressions cover > \frac{1}{3} area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	3
Depressions present but cover < 1/10 area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa		
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	✓ points = 0	
Total for R 1 Add the poi	nts in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on	the first page
<u> </u>	-	
R 2.0. Does the landscape have the potential to support the water quality function	of the site?	1
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 the		0
within the last 5 years?  R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 (No = 0) Yes = 1 (No = 0)	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in c	$\overline{}$	0
R 2.1-R 2.4? Source Cattle	Yes = 1 No = 0	1
		_
	nts 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 of	drains to one within 1	
mi?		0
	Yes = 1(No = 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		2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2 No = 0	
·	nts in the boxes above	2
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating or	the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	)	pe. venj
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction	on 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	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 < 1/4	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods:		
shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).	s need to have > 90% cover at person	
Forest or shrub for more than $\frac{2}{3}$ the area of the wetland	points = 6	
Forest or shrub for $>^{1}/_{3}$ area OR emergent plants $>^{2}/_{3}$ area	points = 4	0
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{10}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	10
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on a	he first nage
		,,
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 a	he first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
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		1
human or natural resources	points = 2	
Surface flooding problems are in a basin farther down-gradient		
No flooding problems anywhere downstream		
R 6.2. Has the site been identified as important for flood storage or flood con-		0
plan?	Yes = 2(No = 0)	
Total for R 6	Add the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = I	Record the rating on a	he first nage

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3□No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.  None = 0 points    None = 0 points   Low = 1 point   Moderate = 2 points   Moderate   2 points	Figure
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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:	
Calculate: % undisturbed habitat $5$ + [(% moderate and low intensity land uses)/2] $47$ = $52$ %   > $^{1}$ / <sub>3</sub> (33.3%) of 1 km Polygon	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. Calculate: % undisturbed habitat $_{5}$ + [(% moderate and low intensity land uses)/2] $_{47}$ = $_{52}$ % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches 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  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> (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)  Site does not meet any of the criteria above	1

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R154/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; S. Maharry; C. Wallin	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y ✓N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	22
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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	Depressional	
the boundary of depression)		
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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  points = 0	1
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	ne 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 = $1 \cdot No = 0$	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	ne 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	_
rotation by	3

DEPRESSIONAL WETLANDS	
L <b>Hudrologic Functions</b> Indicators that the site tunctions to reduce tleading and eresion	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet	8
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")	
D 4.2. <u>Depth of storage during wet periods</u> : 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 pond □ points = 6	0
The wetland is a headwater wetland	
Seasonal ponding: 1 ft - < 2 ft	
Seasonal ponding: 6 in - < 1 ft  Seasonal ponding: < 6 in or wetland has only saturated soils  points = 2  points = 0	
Total for D 4  Add the points in the boxes above	8
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	_
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 = $1 \times 10^{-5}$	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 th	e 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  Surface flooding problems are in a sub-basin farther down-gradient  points = 2  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:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  Check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  ☑ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	
Cattains of ball darkes are present within the wetlandStanding snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	2
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 + (\% \text{ moderate and low intensity land uses})/2$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	_
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 1 = L Record the rating on the first page	
H 2.0. Is the habitat provided by the site valuable to society?	
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? <i>Choose the highest score</i> that applies to the wetland being rated	
— It has 3 or more priority habitats within 100 m (see Appendix B)  It provides habitat for Threatened or Endongered species (any plant or enimal on state or foderal lists)	
It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  It is manned as a location for an individual WDTW species.	
— 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.	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
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: $\square$ 2 = H $\square$ 1 = M $\square$ 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to <b>SC 4.30</b> No – Go to	-
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in d	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak	-
pond? OYes – Go to SC 4.3ONo = Is not a bog fo	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least	_
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that co	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less that	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	า
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No – Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peat.	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcare	

SC 5.0. Forested Wetlands					
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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		
			(see definitions in question H3.1)		
			OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
			SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2				
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?	OYes = Category IONo − Go to SC 5.3				
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II			
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4				
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics					
	a forested wetland with special characteristics				
Category of wetland based on Special Characteristics		N I A			
Choose the highest rating if wetland falls into several categories		NA			
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form				

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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?YN			
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	(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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
the boundary of depression)	Бергеззіона
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		(only 1 score
Water Quality Functions - Indicators that the site functions to improve water	er quality	per box)
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 durin	ng a flooding event:	
Depressions cover > 1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowar	rdin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	2
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the poin	its in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on t	the first page
R 2.0. Does the landscape have the potential to support the water quality function of	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 th within the last 5 years?	at have been clearcut 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 qu	uestions	4
R 2.1-R 2.4? Source Cattle	Yes = 1) No = 0	1
Total for R 2 Add the poin	nts 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 t	he 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 d	rains 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 YES if there is a TMDL for the drainage in which wetland is found.	water quality? Answer Yes = 2 No = 0	2
Total for R 3 Add the poir	nts 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 WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>8</td>		8
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	•	1
R 6.2. Has the site been identified as important for flood storage or flood convergence.	veyance in a regional flood control Yes = 2 No = 0	0
Total for R 6	Add the points in the boxes above	1
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is  Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) we 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 (1)  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 slope) OR signs of recent beaver activity  Invasive species cover less than 20% in each stratum of vegetation (canopy, such herbaceous, moss/ground cover)	.00 ft) of the edge. d. r denning (> 45 degree	3
,	oints in the boxes above	8
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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 si	te?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land u > $^1$ / $_3$ (33.3%) of 1 km Polygon 20-33% of 1km Polygon 10-19% of 1km Polygon <10% of 1km Polygon		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  **Calculate: % undisturbed habitat + [(% moderate and low intensity land use undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon	points = 3  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above	points = (- 2)  points = 0	0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regiming irrigation practices, dams, or water control structures. <i>Generally, this means outside reclamation areas, irrigation districts, or reservoirs</i>		0
Total for H 2 Add the po	oints in the boxes above	5
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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? Charles that applies to the wetland being rated  Site meets ANY of the following criteria:  ✓ 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 o  — 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  — It has been categorized as an important habitat site in a local or regional compressive has 1 or 2 priority habitats within 100 m (see Appendix B)  Site does not meet any of the criteria above	points = 2 on state or federal lists)  Natural Resources	2

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— 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.	
<b>OR</b> does the wetland unit meet two of the following three sub-criteria?	
<ul> <li>Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.  ○Yes = Category I⊙No= Not an alkali wetland	Cat. I
SC 2.0. Wetlands of High Conservation Value (WHCV)	
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?  Over – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? 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.	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland hased on its functions.	
you will still need to rate the westaina based on its junctions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to <b>SC 4.3O</b> No = <b>Is not a bog for rating</b>	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
3.03 15 2 3213g2.1, 1 32132.33 131.3.13 15 110 110 tu tulturious tult	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you have in question H 1.1)	identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of a</li> </ul>	river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 20</li> </ul>	0% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands sm	naller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these	e priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not a	forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 509	% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremulo</i>	* *	Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy v cover) are fast growing species (see Table 7)?	OYes = <b>Category IIO</b> No – Go to <b>SC 5.4</b>	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year		
	forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics		
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Summa	ry Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R173/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Slope Wetland has multiple HGM classes?Y	
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	9
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	9
Boundary of area within 150 ft of the wetland (can be added to another figure)	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.	•	on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u> </u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream charters are constream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.	1 0 1	hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM of a slope may grade into a riverine floodplain, or a small

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	Donrossional	
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	T
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 = $1 \times 100$	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:	he 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 = $1 \times 1000$	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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the	he first page

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 > \frac{1}{\gamma} 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  Record the rating on the surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions  Record the rating on the surface flows during storms: Choose the points appropriate for the description.	0
Metal die rating and	ne jiist pag
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 = $1 \frac{N_0 = 0}{N_0}$	0
Record the rating on to	he first pag
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 = 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?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2 No = 0

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.  None = 0 points ✓  Low = 1 point ✓  Moderate = 2 points ✓  All three diagrams in this row are High = 3 points ✓  Riparian braided channels with 2 classes	Figure

H 1.6. <u>Special habitat features</u> Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	4
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $33$ = $33$ % > $^{1}$ / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 47 = 47 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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? <i>Choose the highest score</i>	
that applies to the wetland being rated  Site mosts ANV of the following criteria:	
Site meets ANY of the following criteria: points = 2	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
— 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	1
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	
Pating of Value If soons is: 2 2 H Z 1 - M D 0 - L Passard the victing on the first rage	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
<b>○</b> Yes – Go to <b>SC 5.1 ⊙</b> No = <b>Not</b>	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	10
(can be added to figure above)		10
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4E/4G/
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R18	
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**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	Depressional
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 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 phorizontal distance)  Slope is 1% or less Slope is > 1% - 2% Slope is > 2% - 5% Slope is greater than 5%  S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 phorizontal distance)  points:	= 3 = 2 = 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 yet 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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	= 6 = 3 = 2 = 1
Total for S 1 Add the points in the boxes abo	ve 1
	g on the first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	

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 = $1 \text{ No} = 0$	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

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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{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  Rating of Site Potential If score is: \sum 1 = M \sum 0 = L  Record the rating on t	0
Necord the rating on t	ne jiist 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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	0
Rating of Landscape Potential If score is: 1 = M 0 = L Record the rating on t	he 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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.		
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 1  1 check: points = 0	0	
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0	
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure	
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.  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.  None = 0 points    Low = 1 point	0	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
II 2 0. Does the landers as how the meteration to a unrount he hitest from this part of the cite?	
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 0 = 0$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1km Polygon points = 2	0
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46 = 46 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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:	
	0
	U
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. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	
points o	

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
Yes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Oyes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens			
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or			
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>			
you will still need to rate the wetland based on its functions.			
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? See Appendix C for a field key to			
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2			
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? OYes – Go to SC 4.3 No = Is not a bog for rating			
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? OYes = Category I bogONo – Go to SC 4.4			
<b>NOTE:</b> 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.			
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?	Cat. I		
OYes = Category I bog⊙No – Go to SC 4.5			
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6			
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:			
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I		
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the			
wetland			
<b>5</b> ,			

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )				
				<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> </ul>
— 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				
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I		
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2			
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?	OYes = Category IONo − Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II		
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Otes = Category IIONo = Not a forested wetland with special characteristics		Cat. II		
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>		
Choose the highest rating if wetland falls into several categories	_	NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY _	$\boxed{\hspace{1cm}}$ (based on functions $\boxed{\hspace{1cm}}$ or special characteristics $\boxed{\hspace{1cm}}$ )

#### 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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional	
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 WEILANDS	/anh. 1 annua
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 $\Box$ points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland $\Box$ points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland	
No depressions present  points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5	2
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	_
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ points = 0	
Total for R 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he first page
R 2.0. Does the landscape have the potential to support the water quality function of the site?	1
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 = $1 \times 1000$	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 Cattle 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 to	he 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:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		2
Total for R 5	Add the points in the boxes above	12
Rating of Site Potential If score is:	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 so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood complan?	veyance in a regional flood control 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

HARITAT ELINGTIONS Indicators that site tunctions to provide important habitat	oox)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.	·
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $>= \frac{10}{3}$ ac or $>= 10\%$ of the wetland if wetland is $< 2.5$ ac.	
<ul> <li>✓ Emergent plants 0-12 in (0-30 cm) high are the highest layer and have &gt; 30% cover</li> <li>✓ Emergent plants &gt;12-40 in (&gt;30-100 cm) high are the highest layer with &gt;30% cover</li> <li>— Emergent plants &gt; 40 in (&gt; 100 cm) high are the highest layer with &gt;30% cover</li> <li>✓ Scrub-shrub (areas where shrubs have &gt;30% cover)</li> <li>4 or more checks: points = 3</li> <li>— Forested (areas where trees have &gt;30% cover)</li> <li>3 checks: points = 2</li> <li>2 checks: points = 1</li> <li>1 check: points = 0</li> </ul>	2
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.	igure
None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	2

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	4.0
·	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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 0 = 0 %$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	0
10-19% of 1km Polygon points = 1	
70	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 43 = 43 %$	
Undisturbed habitat > 50% of Polygon  points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3(No = 0)	
Total for H 2 Add the points in the boxes above	2
<u>Rating of Landscape Potential</u> If score is: $\square$ <b>4-9 = H</b> $\square$ <b>1-3 = M</b> $\square$ <b>&lt; 1 = L</b> 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
Tt has 3 or more priority habitats within 100 m (see Appendix B)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	2
— 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:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

CC 4.0 Page and Calegoration Force	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
; ;	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
— 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	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ⊙No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?   OYes = Category IONo – Go to SC 5.3	
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	NA
If you answered No for all types, enter "Not Applicable" on Summary Form	147

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	$\overline{IV}$ (based on functions $\overline{V}$ or special characteristics $\overline{}}$ )

#### 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□	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	
	Circle the appropriate category	
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	Ι	
Old Growth or Mature Forest – fast growing	II	
Floodplain forest	II	
None of the above	<b>/</b>	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	10
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R20
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**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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 S 2.0. Does the landscape have the potential to support the water quality function at the site?	ne 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 $(N0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 = 0	0
Rating of Site Potential If score is: $\Box$ 1 = M $\Box$ 0 = L Record the rating or	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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	0
Rating of Landscape Potential If score is:  1 = M 0 = L Record the rating or	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 = 0	) 1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  3 checks: points = 2 2 checks: points = 1	0
H 1.2. Is one of the vegetation types Aquatic Bed? $ Yes = 1 No = 0 $	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points   Low = 1 point   Moderate = 2 points   High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
11.2.0 December less describes a structural to a supposit her bit to the structure of the cite?	
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 0 = 0 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1km Polygon points = 2	0
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46 = 46 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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:	
	0
	U
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. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
— 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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	
points o	

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   • Yes – Go to SC 4.3•No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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?	Cat. I
Oyes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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		
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	$\overline{\text{IV}}$ (based on functions $\overline{\text{V}}$ or special characteristics $\overline{\text{U}}$ )	

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	10
(can be added to figure above)		10
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/40
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional	
the boundary of depression)	Бергеззіона	
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  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)  points = 3  points = 2  points = 1  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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	0
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating on the	ne first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	

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 = $1 \times 1000$	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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

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 = 0	0
Record the rating on to the stating of Site Potential If score is:1 = M0 = L	he 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
Record the rating on the stating of Landscape Potential If score is: $\Box$ 1 = M $\Box$ 0 = L	he first pag
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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 0 = 0 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1km Polygon points = 2	0
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46 = 46 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches  points = 2	2
Undisturbed habitat 10 - 50% and > 3 patches  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:	0
> 50% of Polygon is high intensity land use points = (-2)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
— 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	
Site does not ineet any of the oriteria above	

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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 s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		NIA
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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Vetland	name or number	R23

# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R23; EDF	Date of site visit: $\frac{7/6}{9}/20/17$
Rated by J. Dirkse; Grette Associates	_ Trained by Ecology? $\checkmark$ Yes No Date of training $^{9/05; 5/14}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	$\overline{\hspace{1cm}}$ (based on functions $\overline{\hspace{1cm}}$ or special characteristics $\overline{\hspace{1cm}}$ )

#### 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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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.

<u>RIVERINE WEILANDS</u>	(only 1 score
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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	g event:
Depressions cover >1/3 area of wetland	points = 6
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1
No depressions present	points = 0
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cowardin classes)	ı:
•	points = 10
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5
	points = 5
	points = 2
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0
Total for R 1 Add the points in the box	xes above 0
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record to	he 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 within the last 5 years?	n clearcut 1 No = 0
	1(No=0) 0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions	
0-4-1-	1 No = 0
Total for R 2 Add the points in the box	xes above 2
Rating of Landscape Potential If score is: □ 3-6 = H □ 1 or 2 = M □ 0 = L Record to	he 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 =	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 YES if there is a TMDL for the drainage in which wetland is found.  Yes =	ty? Answer 2
Total for R 3 Add the points in the bo	exes above 2

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

Record the rating on the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria	Treat large woody debris as forest or	4
Total for R 5	Add the points in the boxes above	14
Rating of Site Potential If score is:	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 so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	·	1
R 6.2. Has the site been identified as important for flood storage or flood complan?	veyance in a regional flood control 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
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1	1
H 1.2. Is one of the vegetation types Aquatic Bed? $ Yes = 1 No = 0 $	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.	Figure
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.  None = 0 points	1

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
Total for H 1 Add the points in the boxes above	9	
<u>Rating of Site Potential</u> If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:		
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 21 = 21 %$		
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	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.		
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 34 = 34 %$		
Undisturbed habitat > 50% of Polygon points = 3	_	
	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)	0	
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	0	
reclamation areas, irrigation districts, or reservoirs  Yes = $3 \text{ No} = 0$		
Total for H 2 Add the points in the boxes above	4	
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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	2	
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		
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the first page		

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bo	as or
calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes</i>	
you will still need to rate the wetland based on its functions.	<i>'</i> E3
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? See Appendix C for a field key to	
identify organic soils.  OYes – Go to <b>SC 4.3</b> ONo – Go to <b>SC</b>	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake o	
pond? OYes – Go to SC 4.3 No = Is not a bog for ra	_
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30%	
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to SO	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that crite	
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.	
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 sp (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	cat. I
OYes = Category I bogo No – Go to So	`45
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats are	
mucks? OYes = Is a Calcareous Fen for purpose of rating No – Go to SC	
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 m	
	ucks,
AND one of the two following conditions is met:	0.1.1
— Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	fen

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R25/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	13
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	13
Boundary of area within 150 ft of the wetland (can be added to another figure)	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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 fooddeep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
<b>√</b>	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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 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	1
Slope is > 1% - 2%	'
Slope is > 2% - 5%	
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	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	0
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 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 unbill side of the wetland in land uses that generate pollutants?	

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 = $1 \times 1000$	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 <u>Cattle</u> (Yes = 1) No = 0	1
Total for S 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is:  $\boxed{\square}$  1-2 = M  $\boxed{\square}$  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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{1}{8} in), or dense enough, to remain erect during surface flows.  Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  Points =	= 0
Rating of Site Potential If score is: $\square$ 1 = M $\square$ 0 = L Record the rating	g 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: $\Box$ 1 = M $\Box$ 0 = L Record the rating	g 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
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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
Rinarian hraided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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 notential to support habitat functions of the site?	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $28$ = $28$ % $^{1}/_{3}$ (33.3%) of 1 km Polygon points = 3 $^{2}/_{3}$ 20-33% of 1km Polygon points = 2 $^{2}/_{3}$ 10-19% of 1km Polygon points = 1 $^{2}/_{3}$ conditions of 1km Polygon points = 0	2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $37$ = $37$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)	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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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 1-3 = M 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:  ✓ 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	2

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.20No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 3.0 mJycin.  — 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	
<del>-</del>	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category I⊙No = Not a WHCV	Cal. I
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	
OYes – Contact WNHP/WDNR and go to SC 3.4ONo = Not a WHCV	
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?	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.30No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogoNo – Go to SC 4.5	
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?  OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
mucks?	
AND one of the two following conditions is met:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	Cat. I
wetland	
Wettand 5103 - 13 a category i calcareous ien 610 - 13 not a calcareous ien	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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
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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R27; EDF	Date of site visit: <u>//6; 9/20/1</u> /
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	t <b>the figures requested</b> ( <i>figures can be combined</i> ). Google Earth; GPS data; GIS data
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-		
	Category III - Total score = 16-18	
	Category IV - Total score = 9-15	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle	the appropriate ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II 🗌
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional	
the boundary of depression)		
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.

<u> </u>		/
Water Quality Functions - Indicators that the site functions to improve wat	er quality	(only 1 score per box)
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	ng a flooding event:	
Depressions cover > 1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	✓ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cowa	rdin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the poir	nts in the boxes above	3
Rating of Site Potential If score is:  12-16 = H  6-11 = M  2 0-5 = L	Record the rating on	the first page
	-	
	(1)	
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 the		1
within the last 5 years?	Yes = 1 No = 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 q		1
R 2.1-R 2.4? Source Cattle	Yes = 1 No = 0	
Total for R 2 Add the poir	nts 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 d	rains to one within 1	
mi?		0
	Yes = 1(No = 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	2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2)No = 0	
Total for R 3 Add the poi	nts in the boxes above	2

RIVERINE WETLANDS

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

2

Record the rating on the first page

**Points** 

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	1	
R 4.1. Characteristics of the overbank storage the wetland provides:  Estimate the average width of the wetland perpendicular to the directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½	on of the flow and the width of the	10
If the ratio is < 1/4	points = 2	
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland  Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area  Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area  Plants do not meet above criteria	Treat large woody debris as forest or	4
Total for R 5	Add the points in the boxes above	14
Rating of Site Potential If score is:	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 soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conplan?	veyance in a regional flood control 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
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ½ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	2

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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:	2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $44$ = $44$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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:  ✓ 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)  Site does not meet any of the criteria above  Doints = 0	2
<u>Rating of Value</u> If score is: $\boxed{\square}$ <b>2 = H</b> $\boxed{\square}$ <b>1 = M</b> $\boxed{\square}$ <b>0 = L</b> Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes − Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?  — The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 5.0 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 ¾ 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.	Cat. I
○Yes = Category I ○No= Not an alkali wetland	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bog ONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogoNo – Go to SC 4.5	
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?  OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
mucks?	
AND one of the two following conditions is met:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— Wall deposits [calcidiff carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface of plant stems  — The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	Cat. I
wetland	
wettanta	

Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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 (see definitions in question H3.1)	
<ul> <li>in question H 1.1)</li> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> <li>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 (see definitions in question H3.1)</li> </ul>	
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 (see definitions in question H3.1)</li> </ul>	
— 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 (see definitions in question H3.1)	
"old-growth" according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1)	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?   OYes = Category IONo – Go to SC 5.2	
	Cat. I
of woody species?	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	NΙΛ
Choose the highest rating if wetland falls into several categories If you answered No for all types, enter "Not Applicable" on Summary Form	NA

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R28/EDF	Date of site visit: <u>7/6; 9</u> /21/17
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	10
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	10
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R28
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**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	Donrossional	
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	Points (only 1
Water Quality Functions - Indicators that the site functions to improve water quality	score per
S 1.0. Does the site have the potential to improve water quality?	box)
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	1
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
<u>Rating of Site Potential</u> If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating on the	he 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?	1
(Yes = 1) No = 0	Į.
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1
Other sources Cattle Yes = 1 No = 0	'
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	he 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)?	0
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	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)?

basin is on the 303(d) list.

Total for S 3

1

2

3

**Points** 

(Yes = 1) No = 0

Yes = 2) No = 0

Add the points in the boxes above

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  Description of Site Patential If some in T 1 = 10 = 10 = 10.	0
Rating of Site Potential If score is: $\Box$ 1 = M $\boxed{\ }$ 0 = L Record the rating on the same shows the same sho	ne first pag
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 t	he first pag
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
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2 No = 0

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	4
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = 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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $31$ = $31$ %	
> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
	2
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.	
Calculate: % undisturbed habitat $_{0}$ + [(% moderate and low intensity land uses)/2] $_{46}$ = $_{46}$ %	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
— 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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	

Record the rating on the first page <u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	15
(can be added to figure above)		15
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/40
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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.

<u>=====================================</u>	(only 1
Water Quality Functions - Indicators that the site functions to improve water quality	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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense not meet any of the criteria above for plants	0
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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	he 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

SLOPE WETLANDS

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Total for S 3

Record the rating on the first page

3

Add the points in the boxes above

Points

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  Rating of Site Potential If score is:	0 he 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 t	he 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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2 (No = 0)

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points   Low = 1 point   Moderate = 2 points   High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	2	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
Total for H 1 Add the points in the boxes above	3	
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page		
11.2.0 December level and according to the metabolitation and habitation attends on a fall a cite?		
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:		
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 40 = 40 %$		
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	2	
20-33% of 1km Polygon points = 2	3	
10-19% of 1km Polygon points = 1		
<10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.		
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 40 = 40 %$		
Undisturbed habitat > 50% of Polygon points = 3	2	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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:		
	0	
> 50% of Polygon is high intensity land use points = (-2)	U	
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	3	
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	8	
<u>Rating of Landscape Potential</u> If score is: $\boxed{2}$ <b>4-9 = H</b> $\boxed{1}$ <b>1-3 = M</b> $\boxed{2}$ <b>&lt; 1 = L</b> 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		
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>		
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	1	
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		
points = 0		

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>⊙</b> Yes – Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<del>_</del>	
— Salt encrustations around more than 75% of the edge of the wetland	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
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? See Appendix C for a field key to		
identify organic soils.  OYes – Go to <b>SC 4.3O</b> No – Go to <b>SC 4.2</b>		
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? OYes – Go to SC 4.3ONo = Is not a bog for rating		
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? OYes = Category I bogONo – Go to SC 4.4		
<b>NOTE:</b> 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.		
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	Cat. I	
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?		
OYes = Category I bogONo – Go to SC 4.5		
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?		
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:	Cat. I	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>		
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the		
wetland		

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	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 the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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	
Wetland name or number		

# **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? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions $\checkmark$ or special characteristics $\bigcirc$ )

#### 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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	9
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	0
(can be added to figure above)		9
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 Inap of 303(u) listed waters in basin (from Ecology website)  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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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	n Depressional	
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  District the slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  points = 3  points = 2  points = 1  Slope is greater than 5%	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	he 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 = $1 \times 1000$ No = $0 \times 1000$	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.12  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:	he 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 = $1 \times 1000$	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:  $\boxed{2}$  2-4 = H  $\boxed{\ \ }$  1 = M  $\boxed{\ \ }$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland All other conditions	
Rating of Site Potential If score is: $\Box$ 1 = M $\Box$ 0 = L Record the ratio	ng 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 ratin	ng 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  Dints	= 2 1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood cont plan?  Yes = 2 No	0

**NOTES and FIELD OBSERVATIONS:** 

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Total for S 6

Add the points in the boxes above

1

Record the rating on the first page

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $42$ = $42$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon (points = 3)	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 + 49 = 49 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
	2
· · · · · · · · · · · · · · · · · · ·	
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)	0
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	
Undisturbed habitat 10 - 50% and in 1-3 patches Undisturbed habitat 10 - 50% and > 3 patches Undisturbed habitat < 10% of Polygon  H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use Does not meet criterion above  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	
reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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	1
— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> <li>Shoreline Master Plan, or in a watershed plan</li> </ul>	
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	
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils.  OYes – Go to <b>SC 4.3O</b> No – Go to <b>SC 4.2</b>	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
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:	C-+ 1
— Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets at least one of				
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)				
— 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				
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I		
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2			
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I		
of woody species?	OYes = Category IONo − Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II		
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II		
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>		
Choose the highest rating if wetland falls into several categories	_	NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: $\frac{7/6}{9}/21/17$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5}$ ; 5;14
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓ N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ıtings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	22
(can be added to figure above)		22
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4E/4C
polygons for accessible habitat and undisturbed habitat		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.	•	on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u> </u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream charters are constream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.	1 0 1	hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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	Depressional
the boundary of depression)	2 001 000 11 11
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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  Slope is > 1% - 2%  Slope is > 2% - 5%  points = 1	1
Slope is greater than 5%	
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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	ne 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 = $1 \times 1000$ No = $1 \times 1000$	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	ne 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
<b>Rating of Value</b> If score is: $\square$ <b>2-4 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the	ne first page

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?	
	ts = 1 ts = 0
Rating of Site Potential If score is: □ 1 = M	ting on the first pag
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 surfaction runoff?  Yes = 1 N	^
Record the rate Record the Record t	ting on the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
Surface flooding problems are in a sub-basin farther down-gradient point	to ts = 2 ts = 1 ts = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood conplan?  Yes = 2 ( N	0

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Total for S 6

Add the points in the boxes above

1

Record the rating on the first page

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	score per box)
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each	· · ·
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each	
category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% coverEmergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% coverEmergent plants > 40 in (> 100 cm) high are the highest layer with >30% coverScrub-shrub (areas where shrubs have >30% cover)Forested (areas where trees have >30% cover) 3 checks: points = 2 2 checks: points = 1 1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	2

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points. Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface		
ponding or in streamCattails or bulrushes are present within the wetland.		
· · · · · · · · · · · · · · · · · · ·	1	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edgeEmergent 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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
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:		
Calculate: % undisturbed habitat $0 + ((\% \text{ moderate and low intensity land uses})/2) 42 = 42 %$		
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	3	
10-19% of 1km Polygon points = 1		
<10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.		
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 49 %$		
Undisturbed habitat > 50% of Polygon points = 3	2	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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)	0	
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. <i>Generally, this means outside boundaries of</i>	3	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	J	
Total for H 2 Add the points in the boxes above	8	
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page		
Nating of Lanuscape Potential in Score is. 4-9-111-3-101 \ 1-1 _ Necord the ruting on the just 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	1	
— 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)  Site does not most any of the criteria above		
Site does not meet any of the criteria above points = 0		
<u>Rating of Value</u> If score is: $\square$ <b>2</b> = <b>H</b> $\square$ <b>1</b> = <b>M</b> $\square$ <b>0</b> = <b>L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<del>_</del>	
— Salt encrustations around more than 75% of the edge of the wetland	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: $\frac{7/6}{9/21/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5}$ ; 5;14
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
4. Cataram of walls all based on	- FUNCTIONS

#### 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 ro	atings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	22
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
the boundary of depression)	Бергеззіона
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	4
Slope is > 1% - 2%	1
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	Ü
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
<u>Rating of Site Potential</u> If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	0
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?	1
Other sources Cattle Yes = 1 No = 0	ı
Total for S 2 Add the points in the boxes above	1
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>1-2 = M</b> $\boxed{\square}$ <b>0 = L</b> Record the rating on the	he 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	1
basin is on the 303(d) list. Yes = 1 No = 0	I
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer	2
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	3
<b>Rating of Value</b> If score is: $\square$ <b>2-4 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the score is:	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion	Points (only 1 score per box)
5 4.0. Does the site have the potential to reduce flooding and erosion?	
5 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 = 0	
ating of Site Potential If score is:	n the first page
5 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
5 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
ating of Landscape Potential If score is: $\Box$ 1 = M $\boxed{\lor}$ 0 = L  Record the rating of	n the first page
5 6.0. Are the hydrologic functions provided by the site valuable to society?	
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 = 0	
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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2  2 checks: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	2
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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	5
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
Necord the rating on the just 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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 42 = 42 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $_{0}$ + [(% moderate and low intensity land uses)/2] $_{49}$ = $_{49}$ %	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches  points = 2	
Undisturbed habitat 10 - 50% and > 3 patches	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	0
> 50% of Polygon is high intensity land use	0
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	0
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	0
Total for H 2  Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page	<u> </u>
Nating of Landscape Potential in score is. 4-9-11 1-1-3-10 1-1-1-1 Necord the racing on the just 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)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	1
— 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)  Site does not meet any of the criteria above  points = 1  points = 0	
<b>Rating of Value</b> If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R31; EDF	Date of site visit: <u>7/6; 9/20/17</u>
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional	
the boundary of depression)		
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	
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)	
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 $\Box$ points = 6		
Depressions cover $> \frac{1}{10}$ area of wetland $\Box$ points = 3	0	
Depressions present but cover $< \frac{1}{10}$ area of wetland $\Box$ points = 1		
No depressions present		
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):		
Forest or shrub $> \frac{2}{3}$ the area of the wetland $\Box$ points = 10		
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5		
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	0	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland $\Box$ points = 2		
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ points = 0		
Total for R 1 Add the points in the boxes above	0	
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating on to	he first page	
	,, 3	
R 2.0. Does the landscape have the potential to support the water quality function of the site?	1	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = $2 N_0 = 0$	0	
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = $1(N_0 = 0)$	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 = $1 \times 1000$	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 Cattle 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	he 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?	0	
Yes = 1 (No = 0)		
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer	2	
YES if there is a TMDL for the drainage in which wetland is found. (Yes = 2)No = 0		
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

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream er		only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (average width of wetland), width of stream between banks).	-	
If the ratio is more than 2	ooints = 10	10
	points = 8	10
	points = 4	
	points = 2	
	points = 1	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area  Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area	-	0
Total for R 5 Add the points in the box	xes above	10
Rating of Site Potential If score is: ☐ 12-16 = H ☐ 6-11 = M ☐ 0-5 = L Record	the rating on th	e 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?	0 No = 1	1
Total for R 5 Add the points in the box	xes above	2
Rating of Landscape Potential If score is: □ 3 = H ☑ 1 or 2 = M □ 0 = L Record	the rating on th	e 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 to the site.  The sub-basin immediately down-gradient of site has surface flooding problems that result in dar human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream		1
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood plan?	l control 2 No = 0	0
Total for R 6 Add the points in the box	xes above	1
Rating of Value If score is: 7 2-4 = H 7 1 = M 7 0 = I	the rating on th	e first nage

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?	DOAJ
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2  2 checks: points = 1	0
H 1.2. Is one of the vegetation types Aquatic Bed?  1 check: points = 0  Yes = 1 (No = 0)	0
	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ 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 <sup>2</sup> . 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	Figure
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.  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.  None = 0 points   Low = 1 point  Moderate = 2 points  High = 3 points	0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	_
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46 = 46 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	•
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)  Site does not most any of the criteria above	
Site does not meet any of the criteria above points = 0	
<u>Rating of Value</u> If score is: $\square$ <b>2</b> = <b>H</b> $\square$ <b>1</b> = <b>M</b> $\square$ <b>0</b> = <b>L</b> Record the rating on the first page	

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog ONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	Cot
— Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

growing native trees (see Table 7)?	Cat. I
<ul> <li>in question H 1.1)         <ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> <li>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 (see definitions in question H3.1)</li> <li>OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics</li> </ul> </li> <li>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 (see Table 7)?</li> <li>OYes = Category IONo – Go to SC 5.2</li> <li>SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover</li> </ul>	Cat I
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 (see definitions in question H3.1)</li> <li>— OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics</li> <li>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 (see Table 7)?</li> <li>— OYes = Category IONo – Go to SC 5.2</li> <li>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover</li> </ul>	Cat I
— 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 (see definitions in question H3.1)  ○Yes − Go to SC 5.1 ⊙No = Not a forested wetland with special characteristics  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 (see Table 7)?  ○Yes = Category I⊙No − Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
"old-growth" according to the definitions for these priority habitats developed by WDFW  (see definitions in question H3.1)  OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
(see definitions in question H3.1)  OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
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 (see Table 7)?  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover  Ca	Cat I
growing native trees (see Table 7)?	Cat I
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cut. I
- CO	
-fi	Cat. I
of woody species?	
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?  OYes = Category IIONo – Go to SC 5.4  SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	NΙΛ
Choose the highest rating if wetland falls into several categories  If you answered No for all types, enter "Not Applicable" on Summary Form	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **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? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y ✓ N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY _	$\overline{\hspace{1cm}}$ (based on functions $\overline{\hspace{1cm}}$ or special characteristics $\overline{\hspace{1cm}}$ )

#### 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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	16
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
<b>√</b>	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 foo deep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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	Depressional	
the boundary of depression)		
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 quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  D points = 1  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  □ points = 1 □ 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 D 2.0. Does the landscape have the potential to support the water quality function of the site?	he first page
D 2.1. Does the wetland receive stormwater discharges? Yes = $1 \times 10^{-2}$	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = $1 \text{ No} = 0$	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = $1 \times 10^{-2}$	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	he 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	he first page

<u>DEPRESSIONAL WETLANDS</u>	Points (only 1 score
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
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	4
Wetland has a fighty constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : 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 pond points = 6	4
The wetland is a headwater wetland  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	
Total for D 4 Add the points in the boxes above	8
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on t	he first page
D.C.O. Doos the landscape have the material to approve the budgelesis functions of the site?	
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 to	he 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	1
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	
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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on t	he first page

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \times 10^{-1}$	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 ¼ 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.  ☑ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☐ 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 ft². 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	
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $38 = 38$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
	3
20-33% of 1km Polygon points = 2	J
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 49 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	

Record the rating on the first page <u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: $\frac{7/6}{9/21/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	40	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	40	
(can be added to figure above)		40	
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	40	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46	
polygons for accessible habitat and undisturbed habitat		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.	•	on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u> </u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream charters are constream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.	1 0 1	hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional
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.

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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  □ points = 1 □ 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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	e 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 = $\frac{1}{1}$ 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 = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions	0
Rating of Site Potential If score is:	he 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 = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	0
Rating of Landscape Potential If score is:1 = M0 = L	he 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  No flooding problems anywhere downstream	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 No = 0

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	0 0
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1	
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% coverEmergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% coverEmergent plants > 40 in (> 100 cm) high are the highest layer with >30% coverScrub-shrub (areas where shrubs have >30% cover)Forested (areas where trees have >30% cover)Schecks: points = 2Checks: points = 1	
	0
H 1.2. Is one of the vegetation types Aquatic Bed?	
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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
	3
20-33% of 1km Polygon  points = 2	Ū
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon  points = 3	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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	6
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	ı
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats within 100 m (see Appendix B)	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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 the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R401/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05$ ; $5/14$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓_N
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	atings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	40
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	40
(can be added to figure above)		40
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	40
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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	Depressional	
the boundary of depression)	depression)	
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Diagraphic points = 1	1
Slope is greater than 5% $\square$ 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	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	he 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 = $1 \times 100$	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	

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 = $1 \times 1000$	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 = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{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  Rating of Site Potential  If score is: \sum 1 = M \sum 0 = L  Record the rating on to the site?	O he first page
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	
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  points = 2 points = 1	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

No flooding problems anywhere downstream

Record the rating on the first page

0

1

points = 0

Yes = 2 No = 0

Add the points in the boxes above

**NOTES and FIELD OBSERVATIONS:** 

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	<u> </u>
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2  2 checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.	Figure
None = 0 points  Low = 1 point ✓  Moderate = 2 points  Moderate = 3 poi	1
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon  points = 3	3
20-33% of 1km Polygon points = 2	O
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	6
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	1
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	ı
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats within 100 m (see Appendix B)	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
Yes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Oyes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to <b>SC 4.30</b> No – Go to	-
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in d	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak	-
pond? OYes – Go to SC 4.3ONo = Is not a bog fo	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least	_
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that co	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less that	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No – Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peat.	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcare	

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets at least one of				
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)				
— 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				
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I		
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2			
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I		
of woody species?	OYes = Category IONo − Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II		
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II		
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		N I A		
Choose the highest rating if wetland falls into several categories		NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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).
- **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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# **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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.	•	s on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u>e</u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
✓	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream character stream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
<b>√</b>	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.		hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
	NO – go to 5	✓ YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number R404

**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	Donrossional
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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Points = 1  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 D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
	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?  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	ne 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
	3

DEPRESSIONAL WETLANDS		
L <b>Hudrologic Functions</b> Indicators that the site tunctions to reduce tleeding and eresion	only 1 score per box)	
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :		
Wetland has no surface water outlet		
Wetland has an intermittently flowing outlet	8	
Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  □ points = 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 = 8		
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pond ☐ points = 6	0	
The wetland is a headwater wetland  points = 4		
Seasonal ponding: 1 ft - < 2 ft		
Seasonal ponding: 6 in - < 1 ft		
Seasonal ponding: < 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above		
	8	
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	e jirst 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 = $1 \times 10^{-5}$	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	e 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  Surface flooding problems are in a sub-basin farther down-gradient  points = 2  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:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $27$ = $27$ % points = 3 20-33% of 1km Polygon points = 1 10-19% of 1km Polygon points = 0	2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  **Calculate: % undisturbed habitat _ 0 _ + [(% moderate and low intensity land uses)/2] _ 27 = _ 27 _ %  Undisturbed habitat > 50% of Polygon	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	0
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{1}$ -3 = M $\boxed{-}$ < 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)  Site does not meet any of the criteria above	0

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
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?	
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:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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 mul	tiple HGM classes?YN
NOTE: Form is not complete without  Source of base aerial photo/map		
OVERALL WETLAND CATEGORY _	Ш	

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
<b>√</b>	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO − go to 5 YES − The wetland class is <b>Depressional</b>
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	Depressional
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 quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  I 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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  ✓ points = 1  ✓ 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 D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
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  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	he 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: $\  \  \  \  \  \  \  \  \  \  \  \  \ $	he first page

DEPRESSIONAL WETLANDS		
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)	
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :		
Wetland has no surface water outlet		
Wetland has an intermittently flowing outlet □ points = 4 Wetland has a highly constricted permanently flowing outlet □ points = 4	8	
Wetland has a permanently flowing unconstricted surface outlet		
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")		
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For</i>		
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 pond points = 6	0	
The wetland is a headwater wetland		
Seasonal ponding: 1 ft - < 2 ft		
Seasonal ponding: 6 in - < 1 ft		
Seasonal ponding: < 6 in or wetland has only saturated soils		
Total for D 4 Add the points in the boxes above	8	
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on t	he first page	
D.C.O. Doog the landscape have the material to approve the budgelesis functions of the site?		
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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	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 t	he 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. <i>Do not add points.</i>		
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	1	
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		
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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on t	he first page	

These questions apply to wetlands of all HGM classes.		
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  Check: points = 0	0	
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 (No = 0)	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0	
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	0	
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  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.	1				
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 (canopy, sub-canopy, shrubs,					
herbaceous, moss/ground cover)					
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:					
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 27 + (\% \text{ moderate and low intensity land uses})/2$					
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	0				
20-33% of 1km Polygon points = 2	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.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 27 = 27 %$					
	2				
Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2					
Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  points = 2					
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)	0				
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. <i>Generally, this means outside boundaries of</i>	0				
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	1				
Total for H 2 Add the points in the boxes above	4				
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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)					
<ul> <li>It is mapped as a location for an individual WDFW species</li> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>					
— 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)					
Site does not meet any of the criteria above points = 0					
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to		
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de		
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake		
pond? OYes – Go to SC 4.3 ONo = Is not a bog for		
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-	
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to		
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.		
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I	
OYes = Category I bog No - Go to		
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats		
mucks?		
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		
AND one of the two following conditions is met:	,	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with		
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous		

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets at least one of			
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)			
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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			
(see definitions in question H3.1)			
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2		
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I	
of woody species?	OYes = Category IONo − Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II	
OYes = Category IIONo = Not a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>	
Choose the highest rating if wetland falls into several categories	_	NA	
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R406/EDF	Date of site visit: $\frac{7/6}{9/21/17}$			
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 _	(based on functions or special characteristics)			
4. Cotoromorfonethandhandhand	FUNCTIONS			

#### 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☑	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
D 1.0. Does the site have the potential to improve water quality?	DOX)
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet	5
Wetland has a highly constricted permanently flowing outlet	
Wetland has a permanently flowing, unconstricted, surface outlet	
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 $\Box$ points = 5	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area $\Box$ points = 3	0
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area $\Box$ points = 1	U
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area $\Box$ points = 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 > ½ total area of wetland	0
Area seasonally ponded is ¼ - ½ total area of wetland	
Area seasonally ponded is < 1/4 total area of wetland	
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	he first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	he first page
	1
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?  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 1
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 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  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 1
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0	1 1
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	1 1
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  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	1 1 0 1 3
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above	1 1 0 1 3
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:  3 or 4 = H  1 or 2 = M  0 = L  Record the rating on the state of the site of t	1 1 0 1 3
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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L  Record the rating on total possible to society?  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?	1 1 0 1 3 he 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?  Ves = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Ves = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ✓ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L  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  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,	1 1 0 1 3 he 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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L  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  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]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	1 1 0 1 3 he first page 0 1

<u>DEPRESSIONAL WETLANDS</u>	Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet □ points = 4 Wetland has a highly constricted permanently flowing outlet □ points = 4	8
Wetland has a permanently flowing unconstricted surface outlet	
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For</i>	
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 pond points = 6	0
The wetland is a headwater wetland	
Seasonal ponding: 1 ft - < 2 ft	
Seasonal ponding: 6 in - < 1 ft	
Seasonal ponding: < 6 in or wetland has only saturated soils	
Total for D 4 Add the points in the boxes above	8
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on t	he first page
D.C.O. Doog the landscape have the material to approve the budgelesis functions of the site?	
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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	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 t	he 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. <i>Do not add points.</i>	
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	1
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	
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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on t	he first page

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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover	score per box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover	
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent 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)	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	0
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	1
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $27 = 27$ %	
> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	2
, ,	
76	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 27 = 27 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches	
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	4
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	0
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	U
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)	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = I Record the rating on the first range	

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **0 = L** Record the rating on the

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	,
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? See Appendix C for a field ke	
identify organic soils. OYes – Go to <b>SC 4.30</b> No – Go to	-
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in d	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lak	-
pond? OYes – Go to SC 4.3ONo = Is not a bog fo	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least	_
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that co	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less that	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	า
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No – Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peat.	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcare	

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of		
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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 the	se priority habitats developed by WDFW		
(see definitions in question H3.1)			
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2		
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I	
of woody species?	OYes = Category IONo − Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II	
	a forested wetland with special characteristics		
Category of wetland based on Special Characteristics		N I A	
Choose the highest rating if wetland falls into several categories		NA	
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R407/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; S. Maharry; C. Wallin	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y ✓ N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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☑	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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.	•	s on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u>e</u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
✓	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream character stream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.		hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
	NO – go to 5	✓ YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional
the boundary of depression)	Бергеззіона
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 quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  Wetland has a highly constricted permanently flowing outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 > ²/₃ of area  Wetland has persistent, ungrazed, vegetation from ¹/₃ to ²/₃ of area  Wetland has persistent, ungrazed vegetation from ¹/₃ to < ¹/₃ of area  Wetland has persistent, ungrazed vegetation < 1/₃ of area  Wetland has persistent, ungrazed vegetation < 1/₃ 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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Points = 1  Points = 0	0	
Total for D 1 Add the points in the boxes above	3	
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	ne 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 = $1 \cdot No = 0$	0	
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = $1 \times 10^{-2}$	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	ne first page	

<u>DEPRESSIONAL WETLANDS</u>	Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet □ points = 8 Wetland has an intermittently flowing outlet □ points = 4	
Wetland has a highly constricted permanently flowing outlet	4
Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : 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 pond points = 6	0
The wetland is a headwater wetland points = 4	
Seasonal ponding: 1 ft - < 2 ft	
Seasonal ponding: 6 in - < 1 ft	
Seasonal ponding: < 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above	1
<u>'</u>	ha first naga
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on t	ne jirst 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 t	he 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 2-1 = M 0 = L Record the rating on t	he first page

HARITAT FUNCTIONS - Indicators that site functions to provide important habitat	o O
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% coverEmergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% coverEmergent plants > 40 in (> 100 cm) high are the highest layer with >30% coverScrub-shrub (areas where shrubs have >30% cover)Scrub-shrub (areas where trees have >30% cover)Strub-shrub (areas where trees have >30% cover)	0
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.	0
H 1.2. Is one of the vegetation types Aquatic Bed?  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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  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 ft². 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	
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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. □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No. □ 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 ft². 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	
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . 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	
# 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure_

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  _ ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	5
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = 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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $28$ = $28$ % 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.  Calculate: % undisturbed habitat0 + [(% moderate and low intensity land uses)/2]28 =28%  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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)  Site does not meet any of the criteria above	0

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— 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.	
<b>OR</b> does the wetland unit meet two of the following three sub-criteria?	
<ul> <li>Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.  ○Yes = Category I⊙No= Not an alkali wetland	Cat. I
SC 2.0. Wetlands of High Conservation Value (WHCV)	
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?  Over – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow		Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R408/EDF	Date of site visit: $\frac{7/6}{9/21/17}$
Rated by J. Dirkse; S. Maharry; C. Wallin	Trained by Ecology? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Depressional	Wetland has multiple HGM classes?Y ✓_N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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	
	Circle the appropriate category	
Vernal Pools	II 🗌 III 🗌	
Alkali	I	
Wetland of High Conservation Value	Ι	
Bog and Calcareous Fens	I	
Old Growth or Mature Forest – slow growing	I 🗌	
Aspen Forest	Ι	
Old Growth or Mature Forest – fast growing	ΙΙ	
Floodplain forest	II	
None of the above	<b>/</b>	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO − go to 5 YES − The wetland class is <b>Depressional</b>
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	Depressional
the boundary of depression)	Бергеззіона
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 quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Points = 1  Points = 0	0
Total for D 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12- 16 = H $\Box$ 6- 11 = M $\Box$ 0- 5 = L Record the rating on the	e 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	e 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	_
eutrophile lakes, problems with huisance and toxic algae]:	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
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	

<u>DEPRESSIONAL WETLANDS</u>	Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet	0
Wetland has a permanently flowing unconstricted surface outlet  Wetland has a permanently flowing unconstricted surface outlet  points = 4  points = 4	
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : 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 pond points = 6	0
The wetland is a headwater wetland points = 4	
Seasonal ponding: 1 ft - < 2 ft	
Seasonal ponding: 6 in - < 1 ft	
Seasonal ponding: < 6 in or wetland has only saturated soils  ✓ points = 0	
Total for D 4 Add the points in the boxes above	0
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on t	he 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 to	he first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. <u>The wetland is in a landscape that has flooding problems</u> .  Choose the description that best matches conditions around the wetland being rated. <i>Do not add points</i> .	
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	1
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	
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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the score is: $\square$ 2.4 = H $\square$ 1 = M $\square$ 0 = L	the first page

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  ☑ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $0$ = $0$ % > $^{1}$ / <sub>3</sub> (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	0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $23$ = $23$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	0
Total for H 2 Add the points in the boxes above	0
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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)  Site does not meet any of the criteria above	0

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— 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.	
<b>OR</b> does the wetland unit meet two of the following three sub-criteria?	
<ul> <li>Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.  ○Yes = Category I⊙No= Not an alkali wetland	Cat. I
SC 2.0. Wetlands of High Conservation Value (WHCV)	
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?  Over – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? 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.	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland hased on its functions.	
you will still need to rate the westaina based on its junctions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to <b>SC 4.3O</b> No = <b>Is not a bog for rating</b>	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
3.03 15 2 3213g2.1, 1 32132.33 131.3.13 15 110 110 tu tulturious tult	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	7	6	4	17

#### Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H

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

8 = H,H,M

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	41
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO − go to 5 YES − The wetland class is <b>Depressional</b>
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	Depressional
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 quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  Wetland has a highly constricted permanently flowing outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Points = 1  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 D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
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) $N_0 = 0$	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	ne 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
	0

D 4.0. Does the site have the potential to reduce flooding and erosion?  D 4.1. Characteristics of surface water outlet wetland:  Wetland has an intermittently flowing outlet Wetland has a piring hours of the wetland in a surface water outlet (floutlet is a ditch and not permanently flowing outlet Wetland has a highly constricted permanently flowing outlet (floutlet is a ditch and not permanently flowing unconstricted surface outlet (floutlet is a ditch and not permanently flowing treat wetland as 'intermittently flowing') points = 0 (floutlet is a ditch and not permanently flowing may be seasonal ponding: 2 1f3 1f above the lowest point in wetland or the surface of permanent ponding points = 6 Seasonal ponding: 3 1f. above the lowest point in wetland or the surface of permanent ponding points = 6 The wetland is a headwater wetland Seasonal ponding: 6 in < 2 1f. Seasonal ponding: 6 in < 1 1f. Seasonal ponding: 6 i	DEPRESSIONAL WETLANDS	Points
D 4.1. Characteristics of surface water outflows from the wetland:  Wetland has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (if outlet is a ditch and not permanently flowing the wetland as "intermittently flowing")  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: 2 ft - < 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 = 4  Seasonal ponding: 1 ft - < 2 ft  Seasonal ponding: 6 in - < 1 ft  Seasonal ponding: 6 in - < 1 ft  Seasonal ponding: 6 in or vetland has only saturated soils  Total for D 4  Add the points in the boxes above  Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L  Record the rating on the first  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?  D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for D 5  Add the points in the boxes above (res = 1) No = 0  Total for	<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
Wetland has an intermittently flowing outlet Wetland has a highly constricted permanently flowing outlet Wetland has a highly constricted permanently flowing outlet Wetland has a highly constricted permanently flowing outlet Wetland has a permanently flowing unconstricted surface outlet (if outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  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: 2 st 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 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above  Rating of Site Potential  If score is: 12-16 = H	D 4.0. Does the site have the potential to reduce flooding and erosion?	
Wetland has a highly constricted permanently flowing outlet Wetland has a highly constricted permanently flowing outlet Wetland has a permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  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: 2 ft - < 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 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above  Rating of Site Potential If score is: 12-16 = H	<del>-</del>	
Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  D 4.2. Pepth 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: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding points = 6  The wetland is a headwater wetland  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  Seasonal ponding: 1 ft - < 2 ft  Seasonal ponding: 6 in - < 1 ft  Seasonal ponding: 6 in - < 1 ft  Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Rating of Site Potential If score is: 12-16 = H 6-11 = M 0.5 = L  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  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  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  (Yes = 1)No = 0  Total for D 5  Add the points in the boxes above  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 = 0  Surface flooding problems are in a sub-basin farther down-gradient of wetland points = 0  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood		
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Surface flooding problems are in a sub-basin farther down-gradient  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	Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2	1
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		•
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	· · · · · · · · · · · · · · · · · · ·	
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		
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control		
	<u> </u>	
pian? $Yes = 2(No = 0)$	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	Total for D 6 Add the points in the boxes above	1

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

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 >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>100 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>100 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants >12-40 in (>30 cm) high are the highest layer with >30% cover  Vernergent plants species and remarks where stress have >30% cover)  Vernergent plants are stress have >30% cover  Vers = 1 (No = 0)  Vers = 1 (No = 0)  Vers = 1 (No = 0)  Vers = 3 (No =	These questions apply to wetlands of all HGM classes.	(only 1
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 >= % ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  / Emergent plants > 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 shrubs have > 30% cover)  - Scrub-shrub (areas where shrubs have > 30% cover)  - Torested (areas where trees have > 30% cover)  - Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.    Yes = 3 checks: points = 1	HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  ✓ Emergent plants >12.40 in (>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)  ✓ Scrub-shrub (areas where shrubs have >30% cover)  1 checks: points = 3  ☐ Forested (areas where trees have >30% cover)  4 or more checks: points = 3  ☐ Checks: points = 1  1 check: points = 0  1 checks: points = 1  1 check: points = 0  1 checks: points = 1  1 check: points = 0  1 checks: points = 1  2 checks: points = 1  3 checks: points = 1  2 checks: points = 1  2 checks: points = 1  2 checks: points = 1  3 checks: points = 1  2 checks: points = 1  2 checks: points = 1  3 checks: points = 1  2 checks: points = 1  2 checks: points = 1  3 checks: points = 1  2 checks: points = 1  3 checks: points = 1  2 checks: points = 0  4 this. Surface water  H 1.3. Lobes the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  11.3. Surface water  H 1.3. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  11.3. Surface water  H 1.3. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  11.3. Surface water  H 1.3. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  11.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 Eurosian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phrogmite	H 1.0. Does the wetland have the potential to provide habitat for many species?	<del>_ '</del>
1 check: points = 0  H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0  1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ✓ 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 ft². 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	Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent 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) 4 or more checks: points = 3 Forested (areas where trees have >30% cover) 3 checks: points = 2	2
H 1.2. Is one of the vegetation types Aquatic Bed?  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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.   © Yes = 3 points & go to H 1.4.4 No.  Per se = 3 points & go to H 1.3.2 No.  Per se = 3 points is No.  Per se	·	
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 ¼ 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. □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No. ☑ 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 ft². 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		0
Count the number of plant species in the wetland that cover at least 10 ft². 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 = 1 < 4 species: points = 0  H 1.5. Interspersion of habitats  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.  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.  None = 0 points	H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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. □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No. ☑ Yes = 3□No = 0	3
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.  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.  None = 0 points	Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . 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	1
All three diagrams in this row are  High = 3 points	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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
	Riparian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $0$ = $0$ % points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 < 10% of 1km Polygon	0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $26$ = $26$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	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)  Site does not meet any of the criteria above	0

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo - Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets at least one of			
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)  — The wetland is within the 100 year floodplain of a river or stream			
— 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			
(see definitions in question H3.1)			
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I	
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2		
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?	OYes = Category IONo − Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  OYes = Category IIONo = Not a forested wetland with special characteristics		Cat. II	
	a forested wetland with special characteristics		
Category of wetland based on Special Characteristics		N I A	
Choose the highest rating if wetland falls into several categories		NA	
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form		

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	16
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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.		on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	9	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
✓		YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream characteristics or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can contai flooding.	YES – The wetland class is <b>Riverine</b> n depressions that are filled with water when the river is not
4.		hic depression in which water ponds, or is saturated to the This means that any outlet, if present, is higher than the interior
	NO – go to 5	✓ YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R41
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**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	
Wetland has an intermittently flowing outlet	3
Wetland has a highly constricted permanently flowing outlet	Ö
Wetland has a permanently flowing, unconstricted, surface outlet	
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	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area $\Box$ points = 3	0
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $<\frac{1}{3}$ of area $\Box$ points = 1	0
Wetland has persistent, ungrazed vegetation < $\frac{1}{10}$ of area	
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 > ½ total area of wetland	1
Area seasonally ponded is ¼ - ½ total area of wetland  ✓ points = 1	1
Area seasonally ponded is < 1/4 total area of wetland	
Area seasonally political is 13 × 74 total area of wetland	
Total for D 1 Add the points in the boxes above	4
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	o first nago
	ie jii st puye
	le jii st page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	ie jii si page
	) 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
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 2.0. 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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0	) 0
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?  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 2.0. 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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	) 0
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)  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 (No = 0)  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 (No = 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	) 0 ) 0 ) 0 1
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)  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 (No = 0)  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above	) 0 ) 0 ) 0 1
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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?	) 0 ) 0 ) 0 1
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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  Record the rating on the	) 0 ) 0 ) 0 1
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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  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  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,	) 0 ) 0 ) 0 1 1 1 ne 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)  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 (No = 0)  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 (No = 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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  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 ) 0 ) 0 1 1 ne 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  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  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  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,	) 0 ) 0 ) 0 1 1 1 ne 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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  Record the rating on the stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  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  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	) 0 ) 0 ) 0 1 1 1 ne 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?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L  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  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]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	) 0 ) 0 ) 0 1 1 1 ne first page

<u>DEPRESSIONAL WETLANDS</u>	Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet  Very points = 4	4
Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  points = 0	
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : 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 pond points = 6	8
The wetland is a headwater wetland  Seasonal ponding: 1 ft - < 2 ft  points = 4  points = 4	
Seasonal ponding: 6 in - < 1 ft	
Seasonal ponding: < 6 in or wetland has only saturated soils points = 0	
Total for D 4 Add the points in the boxes above	12
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	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 a	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	1
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	
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: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on	the first page

H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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  H 1.5. Interspersion of habitats  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.  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.	These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= % ac or >= 10% of the wetland if wetland is <2.5 oc.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants > 40 in (>= 100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (>= 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 0 check: points = 0 1 check: points = 0 0 check: points = 0 1 check: points = 0 1 check: points = 0 0 check: points = 0 1 check: points = 0 0 check: points = 0 1 check: points = 0 0 check: points = 0 1 check: points = 0 1 check: points = 0 0 check:	H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.3. 1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No. □ 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 ft². 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 = 1 < 4 species: points = 0  H 1.5. Interspersion of habitats 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. 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.  None = 0 points  Low = 1 point  Moderate = 2 points ✓	Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bedEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% coverEmergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% coverEmergent 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)	1
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ 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 ft². 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  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.  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.  Figure 1.4 Species:  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	0
Count the number of plant species in the wetland that cover at least 10 ft². 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	H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ 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.   ✓ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.	3
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . 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	
ı	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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  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	1
slope) OR signs of recent beaver activity  ✓ Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 32 %$	
> 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 49 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3(No = 0)	4
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria:  points = 2  points = 2	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
— 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	2
— 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:	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

CC 4.0 Page and Calegoration Force	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
; ;	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R410; EDF	Date of site visit: $\frac{7/6}{9}$
Rated by J. Dirkse; Grette Associates	Date of site visit: _776, 9/20/17 _ 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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including H 2.1, H 2.2, H 2.3		
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional	
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
Water Quality Functions - Indicators that the site functions to improve wa	iter quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		pe. 2011
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments dur	ing a flooding event:	
Depressions cover $>^1/_3$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	✓ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cow	ardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland	✓ points = 5	_
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	5
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	$\Box$ points = 0	
	ints in the boxes above	8
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on t	he first page
<del></del>	j	, , ,
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 t within the last 5 years?	that have been clearcut 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	1
R 2.1-R 2.4? Source Cattle	(Yes = 1)No = 0	ı ı
Total for R 2 Add the po	ints 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 t	he 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 YES if there is a TMDL for the drainage in which wetland is found.	g water quality? Answer Yes = 2 No = 0	2
Total for R 3 Add the po	pints in the boxes above	2
Rating of Value If score is:	Record the rating on	the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		2
Total for R 5	Add the points in the boxes above	12
Rating of Site Potential If score is:	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 soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	,	2
R 6.2. Has the site been identified as important for flood storage or flood convergence.	veyance in a regional flood control 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.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	2
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3□No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	Figure
Riparian braided channels with 2 classes	

retiand name of number	
H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	4
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $8 + [(\% \text{ moderate and low intensity land uses})/2] 13 = 21 \%$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $\frac{8}{100}$ + [(% moderate and low intensity land uses)/2] $\frac{39}{100}$ = $\frac{47}{100}$ %	
Undisturbed habitat > 50% of Polygon points = 3	4
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	1
Undisturbed habitat 10 - 50% and > 3 patches  points = 1  points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	
	0
> 50% of Polygon is high intensity land use points = (-2)  Does not meet criterion above points = 0	O
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	0
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	0
	3
Total for H 2  Add the points in the boxes above	ა
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)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
<ul> <li>It is mapped as a location for an individual WDFW species</li> </ul>	2
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	_
— 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:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

CC 4.0 Page and Calegoration Force	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
; ;	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )	
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	
<ul> <li>There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or</li> </ul>	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
OYes − Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	
cover) are fast growing species (see Table 7)?   •••••••••••••••••••••••••••••••••••	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	6.1.11
•Yes = Category II•No = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	II
If you answered No for all types, enter "Not Applicable" on Summary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 fooddeep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
<b>√</b>	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional
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
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 even	ent:
	nts = 6
Depressions cover $> \frac{1}{10}$ area of wetland	nts = 3 1
· · · · · · · · · · · · · · · · · · ·	nts = 1
	nts = 0
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
	:s = 10
	nts = 5
	its = 5
	nts = 2
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ point	nts = 0
Total for R 1 Add the points in the boxes a	above 6
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the re-	ating 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	$V_0 = 0$ 0
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = 1	No = 0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been cle within the last 5 years? (Yes = 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	1
R 2.1-R 2.4? Source Cattle Yes = 1	No = 0
Total for R 2 Add the points in the boxes a	above 2
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L Record the re	ating 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 with	hin 1
mi? Yes = 1	No = 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? YES if there is a TMDL for the drainage in which wetland is found. Yes = 2	/
Total for R 3 Add the points in the boxes	above 2
Rating of Value If score is: 2-4 = H 1 1 = M 0 = L Record the	rating on the first page

RIVERINE WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	per boxy
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	10
If the ratio is 1-2 points = 8	10
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½	
If the ratio is < 1/4 points = 1	
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 <sup>2</sup> / <sub>3</sub> the area of the wetland  Forest or shrub for > <sup>1</sup> / <sub>3</sub> area OR emergent plants > <sup>2</sup> / <sub>3</sub> area	4
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area $\Box$ points = 2	
Plants do not meet above criteria	
Total for R 5 Add the points in the boxes above	14
Rating of Site Potential If score is: ✓ 12-16 = H	the first page
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	1
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  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream  R 6.1. Distance to the nearest areas downstream flooding problems? Choose the description that best fits the site.  points = 2  points = 1  No flooding problems anywhere downstream	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: $\boxed{2}$ 2-4 = H $\boxed{1}$ 1 = M $\boxed{0}$ 0 = L Record the rating on	the first page

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	2
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3□No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	Figure
Riparian braided channels with 2 classes	

retiand name of number	
H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	4
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	14
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
<u> </u>	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 9 = 9 %$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	1
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $2 + [(\% \text{ moderate and low intensity land uses})/2] 37 = 39 \%$	
Undisturbed habitat > 50% of Polygon points = 3	1
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = $3 \text{ No} = 0$	Ü
Total for H 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page	
Hatting of Euroscope Fotentials in Score is. — 4 3 = 11 — 12 = 11 — 12 = 11 Hecord the Futing on the Just 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 Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides habitat for Threatened or Endone and gracies (any plant or animal or state or foderal lists).  It provides the provides of the provides of the provides or foderal lists (any plant or animal or state or foderal lists).  It provides the provides of the provid	
It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)    It is presented to a large time for an individual MODIM consider.	
— It is mapped as a location for an individual WDFW species	2
— 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:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SCAA Description of Colorescus Force		
SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? 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.		
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? See Appendix C for a field key to		
identify organic soils.		
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? OYes – Go to SC 4.3 ONo = Is not a bog for rating		
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?		
<b>NOTE:</b> 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.		
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?		
OYes = Category I bog⊙No – Go to SC 4.5		
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?		
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:		
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the		
wetland		

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets at least one of			
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)  ✓ The wetland is within the 100 year floodplain of a river or stream			
— 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			
(see definitions in question H3.1)	. , ,		
Oyes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I	
growing native trees (see Table 7)?	OYes = Category I⊙No – Go to SC 5.2		
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?	OYes = Category I⊙No – Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II	
cover) are fast growing species (see Table 7)?	<b>⊙</b> Yes = <b>Category II⊙</b> No − Go to <b>SC 5.4</b>		
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II	
⊙Yes = Category II⊙No = Not a forested wetland with special characteristics			
Category of wetland based on Special Characteristics			
Choose the highest rating if wetland falls into several categories	_	II	
If you answered No for all types, enter "Not Applicable" on Summ	nary Form		

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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?YN
•	put the figures requested (figures can be combined).
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		mprov ter Q	ing uality	Hy	ydrolo	ogic		Habita	at	
			Circle	the a	ppropi	riate ro	atings	i		
Site Potential	Н	М	L	Н	М	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	Н	М	L	
Value	Н	М	L	Н	М	L	Н	М	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 Circle the appropriate category
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	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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 <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3  YES – The wetland class is <b>Slope</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	s 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 <b>Depressional</b>
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 o	r number
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**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	Depressional
the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

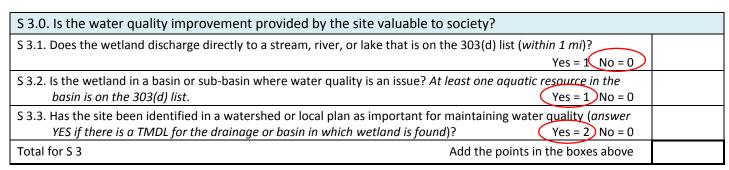
If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water q	Points (only 1 uality score pe 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 elev- horizontal distance)	ntion for every 100 ft of
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 defi	nitions): 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 wetle have trouble seeing the soil surface (>75% cover), and uncut means not grazed or move higher than 6 in.	- I
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 poi	nts in the boxes above
ating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L	Record the rating on the first po

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



<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

Record the rating on the first page

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 > \frac{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	
Rating of Site Potential If score is:1 = M0 = 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 = M0 = L	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 = 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	1
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:

These questions apply to wetlands of all HGM classes.		
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?	box)	
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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) 4 or more checks: points = 3Forested (areas where trees have >30% cover) 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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  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 ft². 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		
H 1.5. Interspersion of habitats  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.  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.	Figure	
None = 0 points Low = 1 point Moderate = 2 points		
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes		

Wetland name or number	
------------------------	--

etland name or number	
H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points. 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 edgeEmergent 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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % 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.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%	
Undisturbed habitat > 50% of Polygon points = 3	
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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:4-9 = H1-3 = 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	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> <li>It is mapped as a location for an individual WDFW species</li> </ul>	
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)  Site does not meet any of the criteria above  points = 1  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to <b>SC 1.2</b> No = <b>Not a vernal pool with special characteristics</b>	
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.)?  Yes = Category II  No = Category III	Cat. II Cat. III
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 3.0 mJyciii.  — 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 ¾ 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.	Cat. I
Yes = Category I No= Not an alkali wetland	
Tes Category 1 110 Not all alkali Westalia	
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? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
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	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
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? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	I
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	1
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	1
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	I
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	1
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	I
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	1
pond? Yes – Go to <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	1
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	I
the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4	I
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	I
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	I
and the plant species in Table 5 are present, the wetland is a bog.	1
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	1
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
Yes = Category I bog No – Go to SC 4.5	I
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	1
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	I
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,	I
AND one of the two following conditions is met:	I
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— 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	 

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
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 (see Table 7)? Yes = Category I No – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species? Yes = Category I No – Go to SC 5.3	ı
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4	ı
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	Cat. II
Yes = Category II No = Not a forested wetland with special characteristics	
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	<u> </u>

## Appendix B: WDFW Priority Habitats in Eastern Washington

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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? $\checkmark$ Yes No Date of training $\frac{9/05; 5;14}{}$
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y ✓N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	17
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	17
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R43
------------------------	-----

**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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%	1
Slope is > 2% - 5%	
Slope is greater than 5%	
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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
<u>Rating of Site Potential</u> If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	0
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?	1
Other sources Cattle Yes = 1 No = 0	'
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	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	1
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
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 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:  $\boxed{2}$  2-4 = H  $\boxed{\ }$  1 = M  $\boxed{\ }$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 1	0
Rating of Site Potential If score is:	n 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 of	n 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 = 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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u> Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1),	Figure
None = 0 points  Low = 1 point  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  _ ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	1
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L	
H20 Barrier lands and the selection of the city of the	
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:  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $31$ = $31$ %	
> $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	2
	_
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  **Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 48 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	0
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	2
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	2
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:  $\boxed{2}$  2 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs of	-
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	r
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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?   OYes = Category I bog ONo - 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.	
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 specie (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations within the	
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
, J	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R44; EDF	Date of site visit: <u>7/6; 9/20/17</u>
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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY _	(based on functions or special characteristics)

#### 1. Category of wetland based on FUNCTIONS

Category I – Total score = 22-2		
	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 ro	atings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	Depressional
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.

Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 even	ent:
Depressions cover $>^1/_3$ area of wetland	nts = 6
Depressions cover $> \frac{1}{10}$ area of wetland	nts = 3 <b>1</b>
Depressions present but cover $< \frac{1}{10}$ area of wetland	its = 1
No depressions present	nts = 0
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
· · · · · · · · · · · · · · · · · · ·	s = 10
	nts = 5
	nts = 5
	nts = 2
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ point	nts = 0
Total for R 1 Add the points in the boxes a	above 1
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the re-	ating 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	N <sub>0</sub> = 0 0
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = $1($	No = 0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been cle within the last 5 years? Yes = 1	earcut No = 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 Cattle Yes = 1	No = 0 1
Total for R 2 Add the points in the boxes a	above 3
Rating of Landscape Potential If score is: ☑ 3-6 = H ☐ 1 or 2 = M ☐ 0 = L Record the re	ating 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 wit	hin 1
mi? Yes = 1(1)	0 No = 0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes = 1	$\longrightarrow$
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality?	
YES if there is a TMDL for the drainage in which wetland is found.  Yes = 2	
Total for R 3 Add the points in the boxes	above 2

**RIVERINE WETLANDS** 

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

Record the rating on the first page

**Points** 

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce flo	ooding and stream erosion	(only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (awwidth of stream between banks).	verage width of wetland)/(average	
If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is < ¼	<ul> <li>✓ points = 10</li> <li>─ points = 8</li> <li>─ points = 4</li> <li>─ points = 2</li> <li>─ points = 1</li> </ul>	10
R 4.2. Characteristics of plants that slow down water velocities during floods: $T$ shrub. Choose the points appropriate for the best description (polygons in height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		2
Total for R 5	Add the points in the boxes above	12
Rating of Site Potential If score is:	Record the rating on	the first page
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 socie	ety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems?  the site.  The sub-basin immediately down-gradient of site has surface flooding p  human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream		1
R 6.2. Has the site been identified as important for flood storage or flood convergian?	eyance in a regional flood control 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 2-1 = M 0 0 = L	Record the rating on	the first page

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	(only 1 score per
H 1.0. Does the wetland have the potential to provide habitat for many species?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	9
<u>Rating of Site Potential</u> If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 28 = 28 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 44 = 44 %$	
	_
· · · · · · · · · · · · · · · · · · ·	2
Undisturbed habitat 10 - 50% and in 1-3 patches  Points = 2  Undisturbed habitat 10 - 50% and in 2 patches	
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = $3(No = 0)$	
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	
<b>Rating of Value</b> If score is: $\Box$ <b>2 = H</b> $\Box$ <b>1 = M</b> $\Box$ <b>0 = L</b> Record the rating on the first page	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes − Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?  — The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 5.0 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 ¾ 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.	Cat. I
○Yes = Category I ○No= Not an alkali wetland	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.  OYes – Go to <b>SC 4.3O</b> No – Go to <b>SC 4.2</b>	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
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:	C-+ 1
— Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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 (see definitions in question H3.1)	
<ul> <li>in question H 1.1)</li> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> <li>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 (see definitions in question H3.1)</li> </ul>	
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 (see definitions in question H3.1)</li> </ul>	
— 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 (see definitions in question H3.1)	
"old-growth" according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1)	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	
	Cat. I
of woody species?	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	NΙΛ
Choose the highest rating if wetland falls into several categories If you answered No for all types, enter "Not Applicable" on Summary Form	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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? $\checkmark$ Yes No Date of training $9/05; 5/14$	
HGM Class used for rating Riverine	Wetland has multiple HGM classes?Y   ✓N	
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data	
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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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
Water Overlite Franctions Indicators that the site franctions to increase water smalltry		(only 1 score
	ri quality	per box)
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	g a flooding event:	
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	1
Depressions present but cover $< \frac{1}{10}$ area of wetland	✓ points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Coward	din classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the point	ts in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L	Record the rating on t	ha first naga
Rating of Site Potential II Score is 12-10 - H 0-11 - W 0-5 - L	Record the ruting on t	ne jiist page
R 2.0. Does the landscape have the potential to support the water quality function o	f 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	nt have been clearcut	0
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 qu	estions	1
R 2.1-R 2.4? Source Cattle	(Yes = 1 )No = 0	1
Total for R 2 Add the point	ts 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 t	he 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 dr	ains to one within 1	
mi?		0
	Yes = 1 (No = 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 v	vater quality? Answer	2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2)No = 0	
Total for R 3 Add the poin	ts 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 WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	<u> </u>
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	10
If the ratio is 1-2 points = 8	10
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½  points = 2	
If the ratio is < 1/4 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	
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 $\Box$ points = 6	0
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area $\Box$ points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area $\Box$ points = 2	
Plants do not meet above criteria points = 0	
Total for R 5 Add the points in the boxes above	10
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating of	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 of Control Record t	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	5
the site.	
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	1
human or natural resources points = 2	'
Surface flooding problems are in a basin farther down-gradient	
No flooding problems anywhere downstream	
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 2 1 = M 0 0 = L Record the rating of	on the first page

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  ——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)  ——Forested (areas where trees have >30% cover)  ——Checks: points = 1  ——Check: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \times 10^{-1}$ No = $0 \times 10^{-1}$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	
H 1.5. Interspersion of habitats 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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	Figure
Riparian braided channels with 2 classes	

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	2	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)  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:		
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $27$ = $27$ %		
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	2	
10-19% of 1km Polygon points = 1		
· · · · · · · · · · · · · · · · · · ·		
70		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.		
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2] 48 = 48 %$		
Undisturbed habitat > 50% of Polygon points = 3	2	
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)	0	
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	0	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	_	
Total for H 2 Add the points in the boxes above	4	
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page		
in score is 1 3 = in 1 2 = in		
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 mapped as a location for an individual way with species  — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1	
— 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		
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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
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? OYes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
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:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	
wetland	
Treatment of the state of the s	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that	t meets <b>at least one</b> of
the following three criteria? (Continue only if you have identified that a in question H 1.1)	forested class is present
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
Aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total co	ver of woody species
— There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac	, ,
"old-growth" according to the definitions for these priority habitat	
(see definitions in question H3.1)	developed by WDFW
OYes − Go to SC 5.1 ONo = Not a forested wetland	with special characteristics
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree spec	•
	tegory IONo – Go to SC 5.2
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents a	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 5	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a r	ver or stream?
OYes = Category IIONo = Not a forested wetland with special characteristics	
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	l NA
If you answered No for all types, enter "Not Applicable" on Summary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R51; EDF	Date of site visit: $\frac{7/6}{9/20/17}$
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{4}$
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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.

Vetland	name or number	R51
vcuanu	manne or muniber	

**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	Depressional	
the boundary of depression)	Бергеззіона	
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
Water Quality Functions - Indicators that the site functions to improve wa	ter quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	· ·	per boxy
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments duri	ing a flooding event:	
Depressions cover $> \frac{1}{3}$ area of wetland	= =	
Depressions cover $> \frac{1}{10}$ area of wetland	<ul><li>points = 6</li><li>points = 3</li></ul>	3
Depressions cover $ > 7_{10} $ area of wetland Depressions present but cover $ < \frac{1}{10} $ area of wetland	· ·	3
No depressions present	☐ points = 1 ☐ points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa	<u>'</u>	
Forest or shrub > $^2/_3$ the area of the wetland	points = 10	
Forest or shrub $^{2}$ / <sub>3</sub> the area of the wetland Forest or shrub $^{1}$ / <sub>3</sub> - $^{2}$ / <sub>3</sub> area of the wetland	— ·	
	points = 5	0
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	
Total for R 1 Add the poi	nts in the boxes above	3
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on t	he first page
<del></del>	J	, , ,
	f.i. 11. 2	
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 t		0
within the last 5 years?	Yes = 1 (No = 0)	U
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 o	questions	1
R 2.1-R 2.4? Source Cattle	(Yes = 1 )No = 0	ı
	nts 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 t	he 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?		0
	Yes = 1 (No = 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		2
YES if there is a TMDL for the drainage in which wetland is found.	(Yes = 2 No = 0	
Total for R 3 Add the po	ints in the boxes above	2

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is </td <td></td> <td>10</td>		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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 soc	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conplan?	veyance in a regional flood control 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
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 36 = 36 %$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2] 46 = 46 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3(No = 0)	•
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 1 = L Record the rating on the first page	
in score is 1 3 = in 1 2 = in	
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 mapped as a location for an individual way with species  — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
— 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	
points = 0	

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs o	r
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	er
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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 specie	S Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No − Go to SC 4.5 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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	"
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	Cat. I
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
Wedana Gres - 13 a category i calculcous length - 13 not a calculcous len	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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? $\checkmark$ Yes No Date of training $\frac{9/05; 5;14}{2}$	
HGM Class used for rating Slope	Y <u>✓</u> 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 _	(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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	22
(can be added to figure above)		22
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		45/40
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.		s on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	S .	be very gradual), and in one direction (unidirectional) and usually comes from a eetflow, or in a swale without distinct banks;
	•	✓ YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream charters are constream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
<b>√</b>	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.	1 0 1	hic depression in which water ponds, or is saturated to the This means that any outlet, if present, is higher than the interior
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM

Wetland name or number	R58
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**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	Depressional
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.

Total for S 2

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  Slope is > 1% - 2%  Class is > 2% - 5%	1
Slope is > 2% - 5%  Slope is greater than 5%  points = 1  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	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	he 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

Record the rating on the first page

1

Add the points in the boxes above

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 = $1 \times 1000$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 1	0
Rating of Site Potential If score is:	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	

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

<u>Rating of Landscape Potential</u> If score is:  $\Box$  1 = M  $\Box$  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
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood contemplan?  Yes = 2 No	0 = 0
Total for S 6 Add the points in the boxes above.	ove 1

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  ——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)  ——2 checks: points = 1  ——1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Tabel for U.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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 34 = 34 %$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
·	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 49 = 49 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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? <i>Choose the highest score</i>	
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)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
<ul> <li>It is mapped as a location for an individual WDFW species</li> </ul>	2
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	_
— 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	
	I

**Rating of Value** If score is:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Oyes – Go to SC 1.20No = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  Oyes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Ores = Contact WMTF/WDMR and go to 3c 3.4c No = Not a WHCV  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?  Ores = Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?  OYes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
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:	
	Cat. I
<ul> <li>— Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> <li>— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	Cdl. I
wetland  Or ree water is 2 6.8 AND electrical conductivity is 2 200 ds/cm at multiple locations within the wetland  Ores = Is a Category I calcareous fenOno = Is not a calcareous fen	
wetiand — is a category i calcareous reneword – is not a calcareous len	

Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )  — 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 (see definitions in question H3.1)	
<ul> <li>in question H 1.1)</li> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> <li>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 (see definitions in question H3.1)</li> </ul>	
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 (see definitions in question H3.1)</li> </ul>	
— 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 (see definitions in question H3.1)	
"old-growth" according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1)	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?   OYes = Category IONo – Go to SC 5.2	
	Cat. I
of woody species?	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	NΙΛ
Choose the highest rating if wetland falls into several categories If you answered No for all types, enter "Not Applicable" on Summary Form	NA

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R63; EDF	Date of site visit: $\frac{7/6}{9/20/17}$
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? ✓ YN
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Vetland	name	or	number	R	63
Vetland	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	Depressional	
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
Water Quality Functions - Indicators that the site functions to improve wate	r quality	(only 1 score
R 1.0. Does the site have the potential to improve water quality?		per box)
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during		
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	✓ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Coward	•	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the point	s in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L	Record the rating on	the first nage
<u> </u>	necora the rating on	ine jiist page
R 2.0. Does the landscape have the potential to support the water quality function of	f 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	t have been clearcut	0
within the last 5 years?	Yes = 1 No = 0	U
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 qu	estions	1
R 2.1-R 2.4? Source Cattle	Yes = 1 No = 0	1
	s in the boxes above	1
Rating of Landscape Potential If score is:	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 dra	ains to one within 1	
mi?		0
	Yes = 1 No = 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 v	vater quality? Answer	2
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	
Total for R 3 Add the point	ts 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

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
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 directic stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).	average width of wetland)/(average	
If the ratio is more than 2  If the ratio is 1-2  If the ratio is $\frac{1}{2}$ -<1  If the ratio is $\frac{1}{4}$ -< $\frac{1}{2}$ If the ratio is < $\frac{1}{4}$	<ul> <li>points = 10</li> <li>points = 8</li> <li>points = 4</li> <li>points = 2</li> <li>points = 1</li> </ul>	10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygons height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria		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  R 5.0. Does the landscape have the potential to support the hydrologic	Record the rating on	the first page
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 2 1 or 2 = M 5 0 = L	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to soc	iety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources Surface flooding problems are in a basin farther down-gradient No flooding problems anywhere downstream	,	1
R 6.2. Has the site been identified as important for flood storage or flood conveplan?	veyance in a regional flood control 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.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	4
·	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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 46 = 46 \%$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
·	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 46$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	3
reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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)	
<ul> <li>It is mapped as a location for an individual WDFW species</li> </ul>	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	ı
— 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)	
Site does not meet any of the criteria above	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore	
SC 4.0 Bogs and Calcareous Fens	
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</i>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	25
(can be added to figure above)		25
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		43/40
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R67
------------------------	-----

**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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  Disposits = 1  Disposits = 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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 2.0. 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 = $1 \times 1000$	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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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  Reting of Site Potential If score is:	0
Record the ruting of the	ne jiist 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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	0
Rating of Landscape Potential If score is: 1 = M 0 = L Record the rating on to	he 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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. <u>Special habitat features</u> Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	0
Undisturbed habitat 10 - 50% and in 1-3 patches  points = 2	2
Undisturbed habitat 10 - 50% and > 3 patches  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)	0
	U
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	0
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{2}$ <b>4-9 = H</b> $\boxed{2}$ <b>1-3 = M</b> $\boxed{2}$ <b>&lt; 1 = L</b> 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? <i>Choose the highest score</i>	
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	1
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	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
	0.000 0.00
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer</b>	yes
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key	
identify organic soils.	C 4.2
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in dee	ep over
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	or
pond? OYes – Go to SC 4.3 No = Is not a bog for r	ating
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?   OYes = Category I bogONo - Go to S	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that crit	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than	
and the plant species in Table 5 are present, the wetland is a bog.	
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 s	necies
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog No – Go to S	C 4 5
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats a	
mucks? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to S	
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 r	
	nucks,
AND one of the two following conditions is met:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within	
wetland	is fen

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Date of site visit: 7/6; 9/21/17
Trained by Ecology? $\checkmark$ Yes No Date of training $9/05; 5/14$
Wetland has multiple HGM classes?Y ✓_N
t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
(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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	22
(can be added to figure above)		22
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		43/46
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R68
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**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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  Disposition of the points and the properties of the points and the points are points are points and the points are poin	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 S 2.0. Does the landscape have the potential to support the water quality function at the site?	ne 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 = $1 \times 1000$	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:  $\boxed{\square}$  1-2 = M  $\boxed{\square}$  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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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 > \frac{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  Rating of Site Potential  If score is: \sum 1 = M \sum 0 = L  Record the rating on the site?	O he first page
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	
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  points = 1	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

No flooding problems anywhere downstream

Record the rating on the first page

0

1

points = 0

Yes = 2 No = 0

Add the points in the boxes above

**NOTES and FIELD OBSERVATIONS:** 

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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	1
Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  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	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	2
H 1.5. Interspersion of habitats  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.  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.	Figure
News Observed Assists	2
None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Pinarian braided channels with 2 classes	-

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	2
Total for H 1 Add the points in the boxes above	7
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H20 December to the control of the c	
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:	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  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  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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)  Site does not meet any of the criteria above	1

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.20No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.	Cat. I
OYes = Category IONo= Not an alkali wetland	
Gres Gategory 16 to Het un amain trestand	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cal. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs of	-
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	r
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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?  OYes = 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.	
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 specie (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations within the	
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
, J	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	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		
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R70/EDF	Date of site visit: <u>7/6; 9</u> /21/17			
Rated by J. Dirkse; Grette Associates	Trained by Ecology? $\checkmark$ 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	(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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	22
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants	S 4.1	22
(can be added to figure above)		22
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	22
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R70
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**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	Depressional
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 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 horizontal distance)  Slope is 1% or less Slope is > 1% - 2% Slope is > 2% - 5% Slope is greater than 5%	points = 3 points = 2 points = 1 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. Denhave trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ¼ of area Does not meet any of the criteria above for plants	-	0
Total for S 1 Add the points in th	e boxes above	1
	ord the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the si		
S 2.1 Ls > 10% of the area within 150 ft on the unhill side of the wetland in land uses that generate r	ants?	

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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce f	looding 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 stor appropriate for the description that best fits conditions in the wetland. Stem enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect during surface flow Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland All other conditions	ns of plants should be thick	0
ating of Site Potential If score is:  1 = M 2 0 = L	Record the rating on t	l C'

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

<u>Rating of Landscape Potential</u> If score is:  $\Box$  1 = M  $\Box$  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 = 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:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  1 checks: points = 1 1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u> Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1),	Figure
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.  None = 0 points  Low = 1 point  Moderate = 2 points	1

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	1
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 33 %$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses)/2} 49 = 49 \%$	
Undisturbed habitat > 50% of Polygon points = 3	_
	2
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	0
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = $3(No = 0)$	
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: $\boxed{\ }$ 4-9 = H $\boxed{\ }$ 1-3 = M $\boxed{\ }$ < 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
Tt has 3 or more priority habitats within 100 m (see Appendix B)	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	2
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	4
— 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:	

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#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.20No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
OYes = Category IONo= Not an alkali wetland	
Gree tanger, 1000 not an anian menana	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

CC 4.0 Page and Calegoration Force	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
; ;	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	n its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: $\frac{7/6}{9/20/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
HGM Class used for rating Riverine	Y   Wetland has multiple HGM classes?Y   N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
1 Catanami of watland based on	- FLINCTIONS

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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
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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5	Your wetland unit seems to be difficult to classify and probably contains several different HCM

Wetland	name	or	number	F	₹7	<b>'</b> 2

**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	Depressional	
the boundary of depression)		
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.

<u>RIVERINE WETLANDS</u>	(only 1 score		
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 points = 6			
Depressions cover $> \frac{1}{10}$ area of wetland	1		
Depressions present but cover $< \frac{1}{10}$ area of wetland $\checkmark$ points = 1			
No depressions present $\Box$ points = 0			
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):			
Forest or shrub > $^2/_3$ the area of the wetland $\Box$ points = 10			
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5			
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland $\Box$ points = 5	0		
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland $\Box$ points = 2			
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ points = 0			
Total for R 1 Add the points in the boxes above	1		
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 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 = $1 \times 10^{-4}$	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 = $1 \times 10^{-10}$	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 Cattle Yes = 1 No = 0	1		
Total for R 2 Add the points in the boxes above	1		
Rating of Landscape Potential If score is: $\square$ 3-6 = H $\square$ 1 or 2 = M $\square$ 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 WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	<u> </u>
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	10
If the ratio is 1-2 points = 8	10
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½  points = 2	
If the ratio is < 1/4 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	
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 $\Box$ points = 6	0
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area $\Box$ points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area $\Box$ points = 2	
Plants do not meet above criteria points = 0	
Total for R 5 Add the points in the boxes above	10
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating of	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 of Control Record t	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	5
the site.	
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	1
human or natural resources points = 2	'
Surface flooding problems are in a basin farther down-gradient	
No flooding problems anywhere downstream	
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 2 1 = M 0 0 = L Record the rating of	on the first page

These questions apply to wetlands of all HGM classes.  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?	box)	
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2  2 checks: points = 1  1 check: points = 0	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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. □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0	
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)  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:  Calculate: % undisturbed habitat  0 + [(% moderate and low intensity land uses)/2] 35 = 35 % points = 2	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:  Calculate: % undisturbed habitat ☐ + [(% moderate and low intensity land uses)/2] 35 = 35 %  > ¹/₃ (33.3%) of 1 km Polygon  20-33% of 1km Polygon  10-19% of 1km Polygon  + (10% of 1km Polygon  Points = 1  > 10% of 1km Polygon  Points = 0  H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	4
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:  Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 35 = 35 %  > 1/3 (33.3%) of 1 km Polygon  20-33% of 1km Polygon  points = 2  10-19% of 1km Polygon  points = 1  <10% of 1km Polygon  H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $35$ = $35$ %  > $^{1}$ / <sub>3</sub> (33.3%) of 1 km Polygon  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.	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $35$ = $35$ %  > $^{1}$ / <sub>3</sub> (33.3%) of 1 km Polygon  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.	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $35$ = $35$ % > $^{1}$ / <sub>3</sub> (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.	
	3
Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 3  points = 2  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	0
Total for H 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: $\boxed{\ }$ 4-9 = H $\boxed{\ }$ 1-3 = M $\boxed{\ }$ < 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)  Site does not meet any of the criteria above	1

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul><li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li></ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ of the plant cover consists of species listed on Table 4	
<ul> <li>— 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.</li> <li>○Yes = Category I⊙No= Not an alkali wetland</li> </ul>	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?  OYes – Go to SC 3.2 ONo – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  OYes = Category IONo = Not a WHCV	Cat. I
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	
OYes − Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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?  Or set a Wetland within the 3/1/K as a Wetland of High Conservation Value and it is listed  Or set a Category IONo = Not a WHCV	
On their website:	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.    OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Date of site visit: 7/6; 9/21/17
Date of site visit: $\frac{7/6}{9/21/17}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05}{5/14}$
Wetland has multiple HGM classes?Y   ✓N
the figures requested (figures can be combined). Google Earth; GPS data; GIS data
(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 ro	atings	
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	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	
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	26
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	26
(can be added to figure above)		20
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	26
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	R77
------------------------	-----

**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	Depressional
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.

<u> </u>	lank 1
Water Quality Functions - Indicators that the site functions to improve water quality	(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	1
Slope is > 2% - 5%	
Slope is greater than 5%	
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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 to	he 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 to	he 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)?

SLOPE WETLANDS

Total for S 3

2

3

Points

Yes = 2) No = 0

Add the points in the boxes above

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 = 0	
ating of Site Potential If score is:	n the first pag

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:  $\Box$  1 = M  $\Box$  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 = poin	1) '
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood contro plan?  Yes = 2 No =	0
Total for S 6 Add the points in the boxes above	e 1

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
[112.2.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 + (\% \text{ moderate and low intensity land uses})/2$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
·	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
Does not meet criterion above points = 0	Ü
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	2
irrigation practices, dams, or water control structures. Generally, this means outside boundaries of	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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 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	1
— 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)	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update Rating Form – Effective January 1, 2015

#### **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
<del>-</del>	
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.  — 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.  — OYes — Go to SC 1.1@No = Not a vernal pool  SC 1.1. Is the vernal pool relatively undisturbed in February and March?  — OYes — Go to SC 1.2@No = Not a vernal pool with special characteristics  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.)?  OYes — Go to SC 1.2@No = Not a vernal pool with special characteristics  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 > 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 % 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 wetland	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
·	
	Cat. II
wetiands, rivers, takes etc.)?	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
·	
<del>-</del>	
	Cat. I
	6-4-1
	Cat. I
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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? $\checkmark$ Yes No Date of training $9/05$ ; $5/14$
HGM Class used for rating Riverine	Wetland has multiple HGM classes? ✓ YN
	ut the figures requested (figures can be combined).  Google Earth; GPS data; GIS data
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 ro	ntings	
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	6	6	6	18

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M

#### 6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M,L,L3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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.

Makland				F	₹	7	8	
vetland	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	Depressional
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
Water Quality Functions - Indicators that the site functions to improve water	er quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		per box)
		T
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments durin	= =	
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowar	•	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	□ points = 10	
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	0
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the poin	ts in the boxes above	3
Rating of Site Potential If score is: 12-16 = H 6-11 = M 2-0-5 = L	Record the rating on	the first nage
Rating of Site Fotential 11 Score is. 2 12-10-11 2 0-11-10 2 0-5-1	necord the rating on	the jiist page
R 2.0. Does the landscape have the potential to support the water quality function of	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	at have been clearcut	0
within the last 5 years?	Yes = 1 (No = 0)	U
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 qu	iestions	1
R 2.1-R 2.4? Source Cattle	Yes = 1) No = 0	'
Total for R 2 Add the poin	ts in the boxes above	1
Rating of Landscape Potential If score is: 3-6 = H Z 1 or 2 = M D 0 = L	Record the rating on	the first page
<del></del>	3	, , ,
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 de	rains to one within 1	
mi?		0
	Yes = 1 No = 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	2
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	
Total for R 3 Add the poin	ts 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

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream er		only 1 score per box)
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 stream or river channel (distance between banks). Calculate the ratio: (average width of wetland), width of stream between banks).	-	
If the ratio is more than 2	ooints = 10	10
If the ratio is 1-2	points = 8	10
	points = 4	
	points = 2	
	points = 1	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area  Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area	-	0
Total for R 5 Add the points in the box	xes above	10
Rating of Site Potential If score is: □ 12-16 = H □ 6-11 = M □ 0-5 = L Record	the rating on th	e 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?	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?	0 No = 1	1
Total for R 5 Add the points in the box	xes above	1
Rating of Landscape Potential If score is: □ 3 = H ☑ 1 or 2 = M □ 0 = L Record	the rating on th	e 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 to the site.  The sub-basin immediately down-gradient of site has surface flooding problems that result in dar human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream	mage to points = 2	1
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood plan?	l control 2 No = 0	0
Total for R 6 Add the points in the box	xes above	1
Rating of Value If score is: 7.4 = H 7.1 = M 7.0 = I Record	the rating on th	e first naae

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	2	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)  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	4	
Rating of Site Potential if Score is. 15-16 - H 15-16 - H 20-6 - L Record the rating on the jirst 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:		
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$		
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3		
20-33% of 1km Polygon points = 2	3	
10-19% of 1km Polygon points = 1		
<10% of 1km Polygon points = 0		
· ·		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 \%$		
Undisturbed habitat > 50% of Polygon points = 3	2	
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)	0	
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	3	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0		
Total for H 2 Add the points in the boxes above	8	
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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		
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>		
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>		
It is mapped as a location for an individual WDFW species	4	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1	
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)		
Site does not meet any of the criteria above points = 0		
·		

Rating of Value If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.20No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
OYes = Category IONo= Not an alkali wetland	
Gree tanger, 1000 not an anian menana	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE</b> : 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat.
OYes = Category I bog⊙No – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): R80/EDF	Date of site visit: <u>7/6; 9/21/17</u>
Rated by J. Dirkse, S. Maharry, C. Wallin	Date of site visit: 7/6, 9/21/17 Trained by Ecology? ✓ Yes No Date of training 9/05; 5/14
HGM Class used for rating Slope	Y Wetland has multiple HGM classes?YN
	ut the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	23
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	23
(can be added to figure above)		23
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	23
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R80
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**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	Depressional
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  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)  points = 3  points = 2  points = 1  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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	0
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating or	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 = $1 \times 1000$	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:  $\boxed{\square}$  1-2 = M  $\boxed{\square}$  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 $(N_0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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  Record the rating on a second the rating on the points in the wetland points 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 points 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 points in the wet	0 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 = M0 = L Record the rating on a	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  Distance flooding problems are in a sub-basin farther down-gradient  points = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  2 checks: points = 2 2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  PYES = 3 points & go to H 1.4 ØNo = 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  PYES = 3 ØNo = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points    Low = 1 point	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\square$ 0-6 = L Record the rating on the first page	
H20 December to the control of the c	
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	2
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	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:	
	0
> 50% of Polygon is high intensity land use points = (-2)	U
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	3
reclamation areas, irrigation districts, or reservoirs  (Yes = 3) No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{2}$ <b>4-9 = H</b> $\boxed{2}$ <b>1-3 = M</b> $\boxed{2}$ <b>&lt; 1 = L</b> 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	1
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	I
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:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
— Surface water is present for less than 120 days during the wet season.	
Yes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
	Cutim
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.	Cat. I
OYes = Category IONo= Not an alkali wetland	
gree caregory to the time and a section and	
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
OYes — Contact WNHP/WDNR and go to SC 3.4 ONo = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore		
SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
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? See Appendix C for a field key to		
identify organic soils.  OYes – Go to <b>SC 4.3</b> ONo – Go to <b>SC 4.2</b>		
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? OYes – Go to SC 4.3 No = Is not a bog for rating		
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?  OYes = Category I bogONo – Go to SC 4.4		
<b>NOTE:</b> 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.		
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?		
OYes = Category I bogONo – Go to SC 4.5		
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6		
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:		
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>		
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the		
wetland		

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its	boundary that meets at least one of	
the following three criteria? (Continue only if you have id in question H 1.1)	entified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of a riv</li> </ul>	ver or stream	
— Aspen (Populus tremuloides) represents at least 20%	of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands small	er than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these p	riority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not a for	ested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of	of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloide</i> of woody species?	es) represents at least 20% of the total cover  OYes = Category IONo – Go to SC 5.3	Cat. I
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy who cover) are fast growing species (see Table 7)?	<u> </u>	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year f	loodplain of a river or stream?	Cat. II
OYes = Category II⊙No = Not a for	ested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics		
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Summary	Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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	N Wetland has multiple HGM classes?YN
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	23
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 fooddeep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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	R81	
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**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	Depressional	
the boundary of depression)		
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  Points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area	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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  ✓ points = 1  ✓ points = 0	0
Total for D 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	he 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
5 2 2 1 4 4 2 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	4
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?  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  Yes = 1 No = 0	) 0 ) 0 1
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D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L  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?	0 1 1 he first page
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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  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  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: 2 ft - < 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 = 4 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Rating of Site Potential If score is: □ 12-16 = H □ 6-11 = M □ 0-5 = L  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  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  Total for D 5  Add the points in the boxes above  Add the points in the boxes above  O 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  O 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  O 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  O 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  O 5.3. Is more than 25% of the contributing basin of the wetland to society?
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D 6.0. Are the hydrologic functions provided by the site valuable to society?
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  Surface flooding problems are in a sub-basin farther down-gradient  points = 2  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
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  Output  Output  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?
Total for D 6 Add the points in the boxes above 1

Rating of Value If score is:  $\Box$  2-4 = H  $\Box$  1 = M  $\Box$  0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.  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?	box)
1.0. Does the wetiand 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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 1 1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure
Pinarian braided channels with 2 classes	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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	
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:	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $49$ = $49$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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 1-3 = M 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)  Site does not meet any of the criteria above	1
	L

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	-
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	r
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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?  OYes = 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.	
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 specie (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
, J	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
— Aspen (Populus tremuloides) represents at least ?	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		NIA
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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? ✓ YN
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	23
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
✓	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO − go to 5 YES − The wetland class is <b>Depressional</b>
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	R82
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**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	3
Wetland has a highly constricted permanently flowing outlet	
Wetland has a permanently flowing, unconstricted, surface outlet	
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 $\Box$ points = 5	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area $\Box$ points = 3	0
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $<\frac{1}{3}$ of area $\Box$ points = 1	
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area  vegetation $< \frac{1}{10}$ points = 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 > ½ total area of wetland	0
Area seasonally ponded is ¼ - ½ total area of wetland	
Area seasonally ponded is < 1/4 total area of wetland	
· ·	3
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	ıe first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
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 2.1. Does the wetland receive stormwater discharges? Yes = $1 \text{ No} = 0$ D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = $1 \text{ No} = 0$	0
D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0	
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	0
D 2.1. Does the wetland receive stormwater discharges? Yes = $1 \cdot \text{No} = 0$ D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = $1 \cdot \text{No} = 0$ D 2.3. Are there septic systems within 250 ft of the wetland? Yes = $1 \cdot \text{No} = 0$	0 0
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	0 0
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 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	) 0 ) 0 1
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above	) 0 ) 0 1
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  Record the rating on the	) 0 ) 0 1
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L  Record the rating on the points in the society?  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?	0 0 1 1 1 he first page
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L  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  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]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	0 0 1 1 1 he first page
D 2.1. Does the wetland receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:	) 0 ) 0 1 1 1 e first page

DEPRESSIONAL WETLANDS	
L <b>Hudrologic Functions</b> — Indicators that the site tunctions to reduce tleading and eresion	(only 1 score per box)
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :	
Wetland has no surface water outlet	
Wetland has an intermittently flowing outlet  ☐ points = 4  Wetland has a highly constricted permanently flowing outlet  ☐ points = 4	4
Wetland has a riighly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
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 pond points = 6	0
The wetland is a headwater wetland points = 4	
Seasonal ponding: 1 ft - < 2 ft  Seasonal ponding: 6 in - < 1 ft  points = 4  points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils  Seasonal ponding: < 6 in or wetland has only saturated soils	
Total for D 4 Add the points in the boxes above	4
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	e 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	e 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  Surface flooding problems are in a sub-basin farther down-gradient  points = 2  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	
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

These questions apply to wetlands of all HGM classes.  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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
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.	2	
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 (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground cover)		
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:		
Calculate: % undisturbed habitat $3 + [(\% \text{ moderate and low intensity land uses})/2] 49 = 52 \%$		
> 1/3 (33.3%) of 1 km Polygon points = 3	3	
20-33% of 1km Polygon points = 2	3	
10-19% of 1km Polygon points = 1		
<10% of 1km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.		
Calculate: % undisturbed habitat $3 + [(\% \text{ moderate and low intensity land uses})/2] 49 = 52 \%$		
Undisturbed habitat > 50% of Polygon points = 3	3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	J	
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)	0	
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. <i>Generally, this means outside boundaries of</i>	0	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 (No = 0)	U	
Total for H 2 Add the points in the boxes above	6	
<u>Rating of Landscape Potential</u> If score is: $\boxed{\square}$ <b>4-9 = H</b> $\boxed{\square}$ <b>1-3 = M</b> $\boxed{\square}$ <b>&lt; 1 = L</b> 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 provided by the site valuable to society?  H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score</i>		
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:  $\square$  **2 = H**  $\square$  **1 = M**  $\square$  **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs of	-
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3 ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over	r
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3ONo = Is not a bog for rating	
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?  OYes = 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.	
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 specie (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq 6.8$ AND electrical conductivity is $\geq 200$ uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
, J	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II 🗌
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	23
(can be added to figure above)		23
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	23
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 foo deep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
<b>√</b>	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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	R84
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**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	1
Slope is > 1% - 2%	l
Slope is > 2% - 5%	
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)	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	0
Dense, uncut, herbaceous plants > ½ of area	0
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > $\frac{1}{4}$ of area	
Does not meet any of the criteria above for plants	
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	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
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 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0
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?	
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	1
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	1
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	1
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 same of the standard of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  Yes = 1 No = 0  Total for S 2  Add the points in the boxes above  Record the rating on the same of the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?	1 1 he first page
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  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential  If score is: 1-2 = M	1 1 he first page 0

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{1}$  1 = M  $\boxed{0}$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 1  points = 0	0
Rating of Site Potential If score is:	he 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 = $1 \times 10^{-5}$ No = $1 \times 10^{-5}$	0
Rating of Landscape Potential If score is:1 = M0 = L	he 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  No flooding problems anywhere downstream	1

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

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

Record the rating on the first page

Yes = 1 No = 0

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	3
·	<u> </u>
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:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon  points = 3	
	0
Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 0	
H 2.3. Land use intensity in 1 km Polygon:	0
> 50% of Polygon is high intensity land use	U
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. <i>Generally, this means outside boundaries of</i>	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>	
It is mapped as a location for an individual WDFW species	1
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>	•
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	

Record the rating on the first page <u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
— Surface water is present for less than 120 days during the wet season.	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
	Cut. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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.  OYes = Category I⊙No= Not an alkali wetland	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?  OYes – Go to SC 3.2 ONo – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Ores = Category Iono = Not a WHCV	Cat. I
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	
<b>OYes − Contact WNHP/WDNR and go to SC 3.4©</b> No = <b>Not a WHCV</b>	
· · · · · · · · · · · · · · · · · · ·	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cuti
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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 (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	f 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		
(see definitions in question H3.1)		
Oyes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy	•	Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Ores = Category IIONo = Not a forested wetland with special characteristics		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		NΙΛ
Choose the highest rating if wetland falls into several categories	mary Form	NA
If you answered No for all types, enter "Not Applicable" on Sumr	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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## **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	Y   Wetland has multiple HGM classes? Y ✓ N
	ut the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	$\overline{\hspace{1cm}}$ (based on functions $\overline{\hspace{1cm}}$ or special characteristics $\overline{\hspace{1cm}}$ )

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	25
(can be added to figure above)		25
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		43/40
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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.
<b>√</b>	NO - go to 4 YES - The wetland class is <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

Wetland name or number	R85
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**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	Donrossional	
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		Points (only 1
Water Quality Functions - Indicators that the site functions to improve water q	uality	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 elever horizontal distance)  Slope is 1% or less Slope is > 1% - 2% Slope is > 2% - 5% Slope is greater than 5%	<ul> <li>□ points = 3</li> <li>□ points = 2</li> <li>☑ points = 1</li> <li>□ points = 0</li> </ul>	1
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS defi	initions): 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 have trouble seeing the soil surface (>75% cover), and uncut means not grazed or move higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	=-	0
Total for S 1 Add the poi	nts in the boxes above	1
D. C. C. D. C. L. C.		
Rating of Site Potential If score is: ☐ 12 = H ☐ 6-11 = M ☑ 0-5 = L	Record the rating on th	ne first page
S 2.0. Does the landscape have the potential to support the water quality function a		ne first page
	at the site?	ne first page
S 2.0. Does the landscape have the potential to support the water quality function a	enerate pollutants? Yes = 1 No = 0	
S 2.0. Does the landscape have the potential to support the water quality function at S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that get S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quality of the sources.	ent the site? enerate pollutants? Yes = 1 No = 0 uestion S 2.1?	0
S 2.0. Does the landscape have the potential to support the water quality function at S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that get S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quality of the sources.	enerate pollutants?  Yes = 1 No = 0  Juestion S 2.1?  Yes = 1 No = 0	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function as S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that get S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quantum other sources Cattle  Total for S 2  Add the points.	ent the site?  enerate pollutants?  Yes = 1 No = 0  estion S 2.1?  Yes = 1 No = 0  nts in the boxes above	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function as S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that get S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quantum of the sources Cattle  Total for S 2  Add the points are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of pollutants coming into the wetland that are not listed in quantum of the sources of the sources of pollutants coming into the wetland that are not listed in quantum of the sources	enerate pollutants? Yes = 1 No = 0  Destion S 2.1? Yes = 1 No = 0  Ints in the boxes above  Record the rating on the	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function a S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that ge S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quantum Other sources Cattle  Total for S 2 Add the point Rating of Landscape Potential   If score is:	enerate pollutants? Yes = 1 No = 0  Destion S 2.1? Yes = 1 No = 0  Ints in the boxes above  Record the rating on the state of the state	0 1 1 ne first page
S 2.0. Does the landscape have the potential to support the water quality function as S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that get a S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in quantum of the sources Cattle  Total for S 2  Add the point a 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 and S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one again.	enerate pollutants?  Yes = 1 No = 0  Destion S 2.1?  Yes = 1 No = 0  Ints in the boxes above  Record the rating on the state of the sta	0 1 1 ne first page

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 0	0
Rating of Site Potential If score is: □ 1 = M	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 = $1 \overline{N_0 = 0}$	0
Rating of Landscape Potential If score is: 1 = M 0 = L Record the rating or	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 = 0	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)  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:  Calculate: % undisturbed habitat _ O _ + [(% moderate and low intensity land uses)/2] _ 50 = _50 _ %	
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:  Calculate: % undisturbed habitat □ + [(% moderate and low intensity land uses)/2] 50 = 50 %  > ¹/₃ (33.3%) of 1 km Polygon  points = 3  20-33% of 1km Polygon  points = 1  <10% of 1km Polygon  H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat □ + [(% moderate and low intensity land uses)/2] 50 = 50 %  Undisturbed habitat > 50% of Polygon  points = 3  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  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  Does not meet criterion above	2
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:  Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 50 = 50 %  > 1/3 (33.3%) of 1 km Polygon  20-33% of 1km Polygon  10-19% of 1km Polygon  410% of 1km Polygon  Points = 1  10-2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 50 = 50 %  Undisturbed habitat > 50% of Polygon  Points = 3  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  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  Does not meet criterion above	3
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:  Calculate: % undisturbed habitatO + [(% moderate and low intensity land uses)/2]50 =50%  > \frac{1}{3} (33.3%) of 1 km Polygon	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:  Calculate: % undisturbed habitatO + [(% moderate and low intensity land uses)/2]50 =50%  > \frac{1}{3} (33.3%) of 1 km Polygon	
Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 50 = 50 %  > 1/3 (33.3%) of 1 km Polygon 20-33% of 1km Polygon 20-19% of	
Calculate: % undisturbed habitat0 + [(% moderate and low intensity land uses)/2]50_ =50 %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  Points = 1  Undisturbed habitat < 10% of Polygon  H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above	3
> 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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	0
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	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 1-3 = M 1-3 = 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)  Site does not meet any of the criteria above	1

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
Yes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Oyes = Category IONo = Not a WHCV	Cat. I
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	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens		
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or		
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>		
you will still need to rate the wetland based on its functions.		
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? See Appendix C for a field key to		
identify organic soils. OYes – Go to SC 4.3 ONo – Go to SC 4.2		
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? OYes – Go to SC 4.3 No = Is not a bog for rating		
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?  OYes = Category I bogONo – Go to SC 4.4		
<b>NOTE:</b> 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.		
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	Cat. I	
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cut.	
OYes = Category I bogONo − Go to SC 4.5		
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?		
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:		
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I	
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the		
wetland		

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets at least one of				
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)				
— 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				
(see definitions in question H3.1)				
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I		
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2			
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I		
of woody species?	OYes = Category IONo − Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II		
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II		
	a forested wetland with special characteristics			
Category of wetland based on Special Characteristics		<b>.</b>		
Choose the highest rating if wetland falls into several categories	_	NA		
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form			

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	15
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 fooddeep).
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R88
------------------------	-----

**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	Depressional	
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 WEILANDS	(only 1
Water Quality Functions - Indicators that the site functions to improve water quality	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	1
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Dense, uncut, herbaceous plants > ¼ of area	
Does not meet any of the criteria above for plants	
Total for S 1 Add the points in the boxes above	1
<u>Rating of Site Potential</u> If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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: $\square$ 1-2 = M $\square$ 0 = L Record the rating on to	he first naae
necord the rating on the	ic jii st 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)?	0
Yes = 1 (No = 0)	U

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

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)?

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

basin is on the 303(d) list.

Total for S 3

Record the rating on the first page

1

2

3

Points

(Yes = 1) No = 0

Yes = 2) No = 0

Add the points in the boxes above

SLOPE WETLANDS  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?	(01	oints nly 1 ore per ox)
, , , , ,	k nts = 1 nts = 0	0
Rating of Site Potential If score is: $\square$ 1 = M $\square$ 0 = L Record the roll	ating on the f	irst 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 surfarunoff?  Yes = 1		0

Rating of Landscape Potential If score is: \_\_\_\_1 = M \_\_\_ Ø = 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 = 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)	
Total for S 6 Add the points in the boxes above	1

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  2 checks: points = 2 2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = $1 \text{ No} = 0$	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 □ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points    Low = 1 point	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
· · · · · · · · · · · · · · · · · · ·	-
10-19% of 1km Polygon  points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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	
<ul> <li>— It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
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	4
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	1
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	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<del>_</del>	
— Salt encrustations around more than 75% of the edge of the wetland	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SCAA Base and Calcaracus Fore	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Date of site visit: 11/29/17
Date of site visit: $\frac{11/29/17}{2}$ Trained by Ecology? $\checkmark$ Yes No Date of training $\frac{9/05; 5/14}{2}$
Wetland has multiple HGM classes?Y ✓N
the figures requested (figures can be combined). Google Earth; GPS data; GIS data
(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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	25
Boundary of area within 150 ft of the wetland (can be added to another figure)	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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R89	
------------------------	-----	--

**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	Donrossional	
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.

Water Quality Functions - Indicators that the site functions to improve water quality	(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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  D points = 1  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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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	he 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 score is: □ 1-2 = M □ 0 = L	he 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.	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer	2

**SLOPE WETLANDS** 

Rating of Value If score is:  $\boxed{2}$  2-4 = H  $\boxed{2}$  1 = M  $\boxed{2}$  0 = L

Total for S 3

YES if there is a TMDL for the drainage or basin in which wetland is found)?

Yes = 2 No = 0

Record the rating on the first page

Add the points in the boxes above

2

3

Points

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 0	0
Rating of Site Potential If score is: $\Box$ 1 = M $\Box$ 0 = L Record the rating on the same states $\Box$ 1 = M $\Box$ 0 = L	he 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: $\Box$ 1 = M $\overline{\Box}$ 0 = L Record the rating on the	he 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 = 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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1 score per
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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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. <u>Interspersion of habitats</u>	Figure
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.  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.  None = 0 points    Low = 1 point	0

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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:	
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ % > $^{1}$ / <sub>3</sub> (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	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> Yes = 3 No = 0	3
Total for H 2 Add the points in the boxes above	8
Rating of Landscape Potential If score is: $\boxed{2}$ 4-9 = H $\boxed{2}$ 1-3 = M $\boxed{2}$ < 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)  Site does not meet any of the criteria above	1

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.   OYes – Go to SC 4.3ONo – Go to SC 4.2	
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep ove	ſ
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? OYes – Go to SC 4.3 No = Is not a bog for rating	
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? OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cuti
OYes = Category I bogONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	
wetland  OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>	
— 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	
(see definitions in question H3.1)	
Oyes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	i
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?	ı
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?	i
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics  Choose the highest rating if wetland falls into several categories	NA

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	Ι
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	II 🗌
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	15
Boundary of area within 150 ft of the wetland (can be added to another figure)	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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number	R90
------------------------	-----

**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	Depressional	
the boundary of depression)		
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 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  Slope is > 1% - 2%  Slope is > 2% - 5%  Slope is greater than 5%  □ points = 1 □ 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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 t	he 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 = $1 \text{ No} = 0$	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

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 $(N0 = 0)$	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:  $\boxed{2}$  2-4 = H  $\boxed{\square}$  1 = M  $\boxed{\square}$  0 = L

Record the rating on the first page

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, <b>rigid</b> plants cover > 90% of the area of the wetland  All other conditions  points = 0	0
Rating of Site Potential If score is: □ 1 = M ☑ 0 = L  Record the rating on a	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:	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 = 0	1

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

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

**NOTES and FIELD OBSERVATIONS:** 

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.  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?	box)
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  Checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3 ☑ No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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 (canopy, sub-canopy, shrubs,	2
herbaceous, moss/ground cover)  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: Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $45$ = $45$ % > $^{1}$ / <sub>3</sub> (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.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $45$ = $45$ %  Undisturbed habitat > 50% of Polygon  points = 3  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  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  Does not meet criterion above  points = (- 2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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)  Site does not meet any of the criteria above  points = 0	1
<b>Rating of Value</b> If score is: $\Box$ <b>2 = H</b> $\Box$ <b>1 = M</b> $\Box$ <b>0 = L</b> Record the rating on the first page	

Wetland Rating System for Eastern WA: 2014 Update

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#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you hain question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain or</li> </ul>	f 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 the	ese priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canop		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Ores = Category IIONo = Not a forested wetland with special characteristics		Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		NΙΛ
Choose the highest rating if wetland falls into several categories	many Form	NA
If you answered No for all types, enter "Not Applicable" on Sumr	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	N Wetland has multiple HGM classes?YN
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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□	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗌
Alkali	I
Wetland of High Conservation Value	Ι
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I 🗌
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  — 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

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
vcuanu	name of 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	Depressional
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		
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?	per box)	
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 points = 6		
Depressions cover > $\frac{1}{10}$ area of wetland	3	
Depressions present but cover $< \frac{1}{10}$ area of wetland		
No depressions present		
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):		
Forest or shrub > $\frac{2}{3}$ the area of the wetland		
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5  Ungrazed, herbaceous plants > $\frac{2}{3}$ area of wetland $\Box$ points = 5	0	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland  Forest, shrub, and ungrazed herbaceous $\leq \frac{1}{3}$ area of wetland  points = 0		
Totally straightful and the state of the sta		
Total for R 1 Add the points in the boxes above	3	
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L Record the rating on the score is:	he 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 Cattle Yes = 1 No = 0	1	
Total for R 2  Add the points in the boxes above	4	
·	1	
Rating of Landscape Potential If score is: ☐ 3-6 = H ☐ 1 or 2 = M ☐ 0 = L Record the rating on to	ne jirst 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: $\boxed{2}$ 2-4 = H $\boxed{1}$ = M $\boxed{0}$ 0 = L Record the rating on	the first page	

Points

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce	flooding and stream erosion	(only 1 score per box)
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 directi	on of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio:		
width of stream between banks).	, , , , , , , , , , , , , , , , , , , ,	
If the ratio is more than 2	points = 10	4.0
If the ratio is 1-2	points = 8	10
If the ratio is ½-<1	points = 4	
If the ratio is ¼-< ½	points = 2	
If the ratio is < 1/4	points = 1	
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 (polygon	s 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	0
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	10
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\Box$ 0-5 = L	Record the rating on	the first page
	Ş	, ,
R 5.0. Does the landscape have the potential to support the hydrologic	c functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	(Yes = 0 )No = 1	Τ ο
N 3.1. Is the stream of fiver adjacent to the wedaha downcut:		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 = H1 or 2 = M0 = L	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems	s? Choose the description that hest fits	
the site.	s. Choose the description that sest jus	
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to	
human or natural resources	points = 2	1
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood con	veyance 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
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 3  2 checks: points = 1  1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3 □ No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  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.	2
<ul> <li>Emergent or shrub vegetation in areas that are permanently inundated/ponded.</li> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 45 degree slope) OR signs of recent beaver activity</li> <li>Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)</li> </ul>	
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:	3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.  Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> (Yes = 3 No = 0	3
Total for H 2 Add the points in the boxes above	8
Rating of Landscape Potential If score is:	
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)	
<ul> <li>It is mapped as a location for an individual WDFW species</li> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>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</li> <li>Site has 1 or 2 priority habitats within 100 m (see Appendix B)</li> <li>Site does not meet any of the criteria above</li> </ul>	1
<b>Rating of Value</b> If score is: $\square$ 2 = H $\square$ 1 = M $\square$ 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
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</i>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bogONo – Go to SC 4.5	
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?	
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:	
<ul> <li>— Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted with	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes – Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	-	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		<b>.</b>
Choose the highest rating if wetland falls into several categories	_	NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Date of site visit: 11/29/17 Trained by Ecology? ✓ Yes No Date of training 9/05; 5/14
Trained by Ecology? $\checkmark$ Yes No Date of training $9/05$ ; $5/14$
Wetland has multiple HGM classes?Y ✓_N
ut the figures requested (figures can be combined).  Google Earth; GPS data; GIS data
(based on functions $\boxed{\checkmark}$ or special characteristics $$ )
l

#### 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□	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	29
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	29
(can be added to figure above)		29
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	29
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	45/46
polygons for accessible habitat and undisturbed habitat		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.	•	on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	<u> </u>	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of The unit is in a valley, or stream charters are constream or river; The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
✓	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.	1 0 1	hic depression in which water ponds, or is saturated to the <i>This means that any outlet, if present, is higher than the interior</i>
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

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	Depressional	
the boundary of depression)		
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	Points	
Water Quality Functions - Indicators that the site functions to improve water quality	(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	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  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants	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 to	he 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 = $1 \text{ No} = 0$	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		
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 = $1 \times 1000$	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:		

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 > \frac{1}{3} 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  Rating of Site Potential If score is: \sum 1 = M \sum 0 = L  Record the rating on t	O he 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 = M0 = L Record the rating on t	he 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  No flooding problems anywhere downstream	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan?	0

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

1

Yes = 2 (No = 0)

Add the points in the boxes above

NOTES and FIELD OBSERVATIONS:

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HARITAT ELINGTIONS Indicators that site tunctions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  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 = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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 interspersion 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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.  ✓ 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.	
Cattails of buildshes are present within the wetlandStanding snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	2
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	2
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 $	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 48 = 48 %$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
<u>Rating of Landscape Potential</u> If score is: $\boxed{2}$ <b>4-9 = H</b> $\boxed{2}$ <b>1-3 = M</b> $\boxed{2}$ <b>&lt; 1 = L</b> 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria:  points = 2  the least 2 and recommendation has bit in the within 100 mm (and 100 mm).	
— 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	1
— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> <li>Shoreline Master Plan, or in a watershed plan</li> </ul>	
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 of score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = I Record the rating on the first rage	

#### **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<ul> <li>— Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.	Cat. I
<b>○</b> Yes = <b>Category I⊙</b> No= <b>Not an alkali wetland</b>	
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? OYes – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	6-4-1
OYes = Category IONo = Not a WHCV	Cat. I
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	
○Yes - Contact WNHP/WDNR and go to SC 3.4②No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in	bogs or
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answ</b>	_
you will still need to rate the wetland based on its functions.	,
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats of organic soil.	or
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field ke	
identify organic soils. OYes – Go to SC 4.3ONo – Go to	=
SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in de	
bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
pond? OYes – Go to SC 4.3 ONo = Is not a bog for	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 3	-
the total plant cover consists of species in Table 5?  OYes = Category I bog No – Go to	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that cr	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less tha	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	ı
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	e species Cat. I
OYes = Category I bog No - Go to	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats	
mucks?	
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	
AND one of the two following conditions is met:	,
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations with	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
<ul> <li>The wetland is within the 100 year floodplain of</li> </ul>	a river or stream	
<ul> <li>Aspen (Populus tremuloides) represents at least 2</li> </ul>	20% of the total cover of woody species	
— There is at least ¼ ac of trees (even in wetlands s	maller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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	Date of site visit: 11/29/17 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
	t the figures requested (figures can be combined). Google Earth; GPS data; GIS data
OVERALL WETLAND CATEGORY	(based on functions or special characteristics)
4. 6.1	FUNCTIONS

#### 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 ro	ntings	
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	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
	Circle the appropriate category
Vernal Pools	II 🗌 III 🗀
Alkali	I
Wetland of High Conservation Value	I 🗌
Bog and Calcareous Fens	I 🗌
Old Growth or Mature Forest – slow growing	Ι
Aspen Forest	Ι
Old Growth or Mature Forest – fast growing	ΙΙ
Floodplain forest	II
None of the above	1

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	25
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	25
(can be added to figure above)		25
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	25
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4E/4C
polygons for accessible habitat and undisturbed habitat		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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ✓ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ✓ 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 <b>without being impounded</b> .
	NO - go to 3  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 <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
✓	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	Your wetland unit seems to be difficult to classify and probably contains several different HGM

**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	Depressional
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	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(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	1
Slope is > 2% - 5%	
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	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	0
Dense, uncut, herbaceous plants > ½ of area	
Dense, woody, plants > ½ of area	
Does not meet any of the criteria above for plants  Does not meet any of the criteria above for plants	
Total for S 1  Add the points in the boxes above	4
·	1
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\square$ 0-5 = L Record the rating on the	he 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?	0
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?	1
Other sources Cattle Yes = 1 No = 0	'
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	he 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)?	0
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.	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:  $\boxed{2}$  2-4 = H  $\boxed{\ }$  1 = M  $\boxed{\ }$  0 = L

Record the rating on the first page

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 > \frac{1}{\gamma} 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  Retarting of Site Potential  If score is: \sum 1 = M \sum 0 = L  Record the rating on the surface flows appropriate for the points = 0.	0
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 = $1 \times 10^{-5}$ No = $0 \times 10^{-5}$	0
Rating of Landscape Potential If score is: 1 = M 0 = L Record the rating on t	he 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 = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control	

Rating of Value If score is:  $\square$  2-4 = H  $\square$  1 = M  $\square$  0 = L

Record the rating on the first page

Yes = 2 (No = 0)

Add the points in the boxes above

0

1

NOTES and FIELD OBSERVATIONS:

plan?

Total for S 6

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  High = 3 points	0

H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	0
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	2
Emergent or shrub vegetation in areas that are permanently inundated/pondedStable 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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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	
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:	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 + (\% \text{ moderate and low intensity land uses})/2$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	•
20-33% of 1km Polygon points = 2	3
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 50 + (\% \text{ moderate and low intensity land uses})/2$	
Undisturbed habitat > 50% of Polygon points = 3	2
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)	0
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	3
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	8
Rating of Landscape Potential If score is: $\boxed{\square}$ 4-9 = H $\boxed{\square}$ 1-3 = M $\boxed{\square}$ < 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	
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> </ul>	
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	1
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	
<u>Rating of Value</u> If score is: $\square$ <b>2</b> = <b>H</b> $\square$ <b>1</b> = <b>M</b> $\square$ <b>0</b> = <b>L</b> 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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
— Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
OYes − Go to SC 1.1⊙No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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 ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
OYes = Category IONo = Not a WHCV	Cdl. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? 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.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3 No – Go to SC 4.2	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?   OYes = Category I bogONo – 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.	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog ONo – Go to SC 4.5	
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? OYes = Is a Calcareous Fen for purpose of ratingONo – Go to SC 4.6	
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:	Cot
— Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
wetland	

growing native trees (see Table 7)?	Cat. I
<ul> <li>in question H 1.1)         <ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> <li>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 (see definitions in question H3.1)</li> <li>OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics</li> </ul> </li> <li>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 (see Table 7)?</li> <li>OYes = Category IONo – Go to SC 5.2</li> <li>SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover</li> </ul>	Cat I
<ul> <li>— Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species</li> <li>— 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 (see definitions in question H3.1)</li> <li>— OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics</li> <li>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 (see Table 7)?</li> <li>— OYes = Category IONo – Go to SC 5.2</li> <li>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover</li> </ul>	Cat I
— 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 (see definitions in question H3.1)  ○Yes − Go to SC 5.1 ⊙No = Not a forested wetland with special characteristics  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 (see Table 7)?  ○Yes = Category I⊙No − Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
"old-growth" according to the definitions for these priority habitats developed by WDFW  (see definitions in question H3.1)  OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
(see definitions in question H3.1)  OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics  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 (see Table 7)?  OYes = Category IONo – Go to SC 5.2  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover	Cat I
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 (see Table 7)?  SC 5.2. Does the wetland have areas where aspen (Populus tremuloides) represents at least 20% of the total cover  Ca	Cat I
growing native trees (see Table 7)?	Cat I
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cut. I
- Co	
-fi	Cat. I
of woody species?	
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)?  OYes = Category IIONo – Go to SC 5.4  SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
OYes = Category IIONo = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	NΙΛ
Choose the highest rating if wetland falls into several categories  If you answered No for all types, enter "Not Applicable" on Summary Form	NA

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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? $\checkmark$ Yes No Date of training $9/05; 5/14$
HGM Class used for rating Depressional	N Wetland has multiple HGM classes?N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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☑	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	23	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	45/46	
polygons for accessible habitat and undisturbed habitat		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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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)	\$ 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 <b>meet both</b> 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)
<b>√</b>	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3
3.	Does the entire wetland unit <b>meet all</b> 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 <b>Riverine NOTE:</b> 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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
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	R97
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**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	Donrossional	
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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (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  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  D 1.1. Characteristics of surface water outflows from the wetland:  points = 5  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	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 $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  I 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 > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Points = 1  Points = 0	0
Total for D 1 Add the points in the boxes above	5
Rating of Site Potential If score is: $\square$ 12- 16 = H $\square$ 6- 11 = M $\square$ 0- 5 = L Record the rating on the	ne 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 = $\frac{1}{100}$ No = 0	) 0
D 2.3. Are there septic systems within 250 ft of the wetland?  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	ne 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

### Description   D.4.0. Does the site have the potential 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 an surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a highly constricted surface outlet  If outlet is a dirkin and not permanently flowing treat wetland as "intermittently flowing".  D.4.2. Depth of storage during wet periods. Estimate he height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or depests part If dryl.  Seasonal ponding: 3 at above the lowest point in wetland or the surface of permanent ponding points = 8  Seasonal ponding: 1ft - < 2 ft a flabove the lowest point in wetland or the surface of permanent ponding points = 6  The wetland is a headwater wetland seasonal ponding: 6 in - < 1 ft seasonal ponding: 1ft - < 2 ft points = 0  Total for D 4	DEPRESSIONAL WETLANDS	
D 4.1. Characteristics of surface water outflows from the wetland:  Wetland has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  If outlet is a dirch and not permanently flowing unconstricted surface outlet  If outlet is a dirch and not permanently flowing to the wetland as "intermittently flowing"   points = 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 year or deepest part (if dry).  Seasonal ponding: 2 ft - 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 = 4  Seasonal ponding: 1 ft - < 2 ft   points = 2  Seasonal ponding: 1 ft - < 2 ft   points = 2  Seasonal ponding: 6 in or wetland has only saturated soils   points = 2  Seasonal ponding: 6 in or wetland has only saturated soils   points = 2  Seasonal ponding: 6 in or wetland has only saturated soils   points = 2  Seasonal ponding: 6 in or wetland has only saturated soils   points = 3  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?   No = 0   0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?   No = 0   0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?   No = 0   0  D 6.0. Are the hydrologic	Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.	
Wetland has no surface water outlet Wetland has an intermittently flowing outlet Wetland has a highty constricted permanently flowing outlet Wetland has a permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing user wetland or seminate it is a ditch and not permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing treat wetland as 'intermittently flowing')  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 it is a seasonal ponding: 2 ft - < 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 = 4 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 7 ft - < 2 ft Seasonal ponding: 7 ft - < 2 ft Seasonal ponding: 7 ft - < 2 ft Seasonal ponding: 8 ft - < 1 ft Seasonal ponding: 9 ft - < 1 ft Seasonal ponding: 9 ft - < 1 ft Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 2 ft - < 3 ft Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 2 ft - < 3 ft Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 2 ft - < 3 ft Seasonal ponding	D 4.0. Does the site have the potential to reduce flooding and erosion?	
Wetland has an intermittentity flowing outlet Wetland has a pinky constricted permanenty flowing outlet Wetland has a permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")   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: > 1ft - 3 ft above the lowest point in wetland or the surface of permanent ponding points = 6 The wetland is a headwater wetland Seasonal ponding: 6 in - 4 1 ft Seasonal ponding: 6 in - 5 1 ft Seasonal ponding: 6 in - 5 1 ft Seasonal ponding: 6 in - 5 1 ft Seasonal ponding: 6 in - 6 1 ft Seasonal pon	<u>-</u>	
Wetland has a highly constricted permanently flowing outlet Wetland has a permanently flowing unconstricted surface outlet (If outlet is a drich and not permanently flowing treat wetland as "intermittently flowing")  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: 2 ft - < 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 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above  B 7		
Wetland has a permanently flowing unconstricted surface outlet (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")  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: 2 ft - < 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 Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above  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?  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  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above  O Rating of Landscape Potential  If score is: 3 = H 10 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  D 6.2.		8
wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).  Seasonal ponding: 2 ft < 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  Seasonal ponding: 1 ft < 2 ft Seasonal ponding: 1 ft < 2 ft Seasonal ponding: 6 in < 1 ft Seasonal ponding: 6 in < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 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?  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)  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 (No = 0)  Total for D 5  Add the points in the boxes above  O 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 diserciption that best matches conditions 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 or 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  There are no problems with flooding downstream of the wetland  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control pain?	Wetland has a permanently flowing unconstricted surface outlet  points = 0	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pond   points = 6   The wetland is a headwater wetland   points = 4   Seasonal ponding: 1 ft - < 2 ft   points = 4   Seasonal ponding: 5 in - < 1 ft   points = 2   Seasonal ponding: 6 in or wetland has only saturated soils   7 points = 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 dispersion is sub-basin that is immediately down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND   Flooding occurs in 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   Points = 0		
The wetland is a headwater wetland	Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding  points = 8	
Seasonal ponding: 1 ft - < 2 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in - < 1 ft Seasonal ponding: 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above  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?  D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Total for D 5  Rating of Landscape Potential  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  Surface flooding problems are in a sub-basin farther down-gradient  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  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  O 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	· · · · · · · · · · · · · · · · · · ·	0
Seasonal ponding: 6 in -< 1 ft		
Seasonal ponding: < 6 in or wetland has only saturated soils  Total for D 4  Add the points in the boxes above 8  Rating of Site Potential If score is:12-16 = H		
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   O   Points = 0   O		
Bating of Site Potential If score is: □ 12-16 = H	· · ·	8
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?  D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?  P 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  P 6.5. No = 0  Total for D 5  Add the points in the boxes above  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  Surface flooding problems are in a sub-basin farther down-gradient  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  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  P 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	<u> </u>	
D 5.1. Does the wetland receive stormwater discharges?  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 ② 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  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control yes = 2 No = 0	Record the rating of the ratin	ne jii st page
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above  O  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  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  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	D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above  O  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  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  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	D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
Total for D 5  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  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  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	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
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  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
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  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	Total for D 5 Add the points in the boxes above	0
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 = 2  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)		the first page
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  Surface flooding problems are in a sub-basin farther down-gradient  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  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		<del></del>
Surface flooding problems are in a sub-basin farther down-gradient  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?	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	
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		1
There are no problems with flooding downstream of the wetland  D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  O Yes = 2 No = 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	Explain why points = 0	
plan? Yes = 2 No = 0	There are no problems with flooding downstream of the wetland points = 0	
Total for D 6 Add the points in the boxes above 1		0
	Total for D 6 Add the points in the boxes above	1

<u>Rating of Value</u> If score is:  $\Box$  2-4 = H  $\underline{\Box}$  1 = M  $\underline{\Box}$  0 = L

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		
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 >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 1 1 check: points = 0	0	
H 1.2. Is one of the vegetation types Aquatic Bed?	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  □ Yes = 3☑No = 0	0	
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft². 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	Figure	
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.  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.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	1	

H 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  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 (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	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: Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $49$ = $49$ % > $^{1}$ / <sub>3</sub> (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.  Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 = 49 \%$ Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat < 10% of Polygon  points = 1  points = 0	2
H 2.3. Land use intensity in 1 km Polygon:  > 50% of Polygon is high intensity land use  Does not meet criterion above  points = (-2)  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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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	
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)  Site does not meet any of the criteria above	1

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
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.)?  OYes = Category IIONo = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— 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.	
<b>OR</b> does the wetland unit meet two of the following three sub-criteria?	
<ul> <li>Salt encrustations around more than 75% of the edge of the wetland</li> </ul>	
— More than ¾ 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.  ○Yes = Category I⊙No= Not an alkali wetland	Cat. I
SC 2.0. Wetlands of High Conservation Value (WHCV)	
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?  Over – Go to SC 3.20No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

CC 4.0 Page and Calegoration Force	
SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
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? See Appendix C for a field key to	
identify organic soils.	
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? OYes – Go to SC 4.3 No = Is not a bog for rating	
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?  OYes = 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.	
; ;	
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	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
OYes = Category I bog⊙No – Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
— The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	
wetland	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)	
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>	
— 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	
(see definitions in question H3.1)	
OYes – Go to SC 5.1 ONo = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? OYes = Category IONo – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species?   OYes = Category IONo – Go to SC 5.3	
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 (see Table 7)?  OYes = Category IIONo – Go to SC 5.4	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
OYes = Category IIONo = Not a forested wetland with special characteristics	
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	NA
If you answered No for all types, enter "Not Applicable" on Summary Form	147

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): Reecer Ck; E	
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 <u>✓</u> N
	the figures requested (figures can be combined). Google Earth; GPS data; GIS data
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 ro	ntings	
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	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
	Circle the appropriate category
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	Ι
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<b>/</b>

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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.	•	s on the water side of the Ordinary High Water Mark of a body any plants on the surface) that is at least 20 ac (8 ha) in size
<b>√</b>	NO – go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	· · · · · · · · · · · · · · · · · · ·	be very gradual), d in one direction (unidirectional) and usually comes from eetflow, or in a swale without distinct banks;
✓	•	YES – The wetland class is <b>Slope</b> these type of wetlands except occasionally in very small and cks (depressions are usually <3 ft diameter and less than 1 foot
3.	Does the entire wetland unit <b>meet all</b> of the unit is in a valley, or stream characters or river;  ✓ The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that
	NO - go to 4 <b>NOTE:</b> The Riverine wetland can conta flooding.	✓ YES – The wetland class is <b>Riverine</b> in depressions that are filled with water when the river is not
4.		hic depression in which water ponds, or is saturated to the This means that any outlet, if present, is higher than the interior
✓	NO – go to 5	YES – The wetland class is <b>Depressional</b>
5.		to classify and probably contains several different HGM 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

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

WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT

within the wetland unit being scored.

Wetland name or number Reecer

**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.

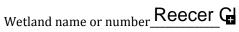
HGM classes within the wetland unit being rated	HGM Class to use in rating	
Slope + Riverine	Riverine	
Slope + Depressional	Depressional	
Slope + Lake Fringe	Lake Fringe	
Depressional + Riverine (the riverine portion is within the boundary of depression)	i Denressional	
Depressional + Lake Fringe	Depressional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

	Points
RIVERINE WETLANDS	(only 1 score
Water Quality Functions - Indicators that the site functions to improve water quality	per box)
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 $\Box$ points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland $\Box$ points = 3	3
Depressions present but cover $< \frac{1}{10}$ area of wetland $\Box$ points = 1	
No depressions present	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland $\Box$ points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland $\Box$ points = 5	
Ungrazed, herbaceous plants > $^2/_3$ area of wetland $\Box$ points = 5	0
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland $\Box$ points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland $\Box$ points = 0	
Total for R 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\square$ 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 = $2 (N_0 = 0)$	0
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = $1 \times 10^{-4}$	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 = $1 \text{ No} = 0$	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 Cattle Yes = 1 No = 0	1
Total for R 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is: 2 3-6 = H 2 1 or 2 = M 2 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?	1
(Yes = 1) No = 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	3
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating of	the first page
	_

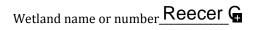
RIVERINE WETLANDS		Points (only 1 score
<b>Hydrologic Functions</b> - Indicators that site functions to reduce to	flooding and stream erosion	per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	?	
R 4.1. Characteristics of the overbank storage the wetland provides:  Estimate the average width of the wetland perpendicular to the direction stream or river channel (distance between banks). Calculate the ratio: (width of stream between banks).  If the ratio is more than 2  If the ratio is 1-2  If the ratio is ½-<1  If the ratio is ¼-< ½  If the ratio is < ¼		10
R 4.2. Characteristics of plants that slow down water velocities during floods: shrub. Choose the points appropriate for the best description (polygon height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area Forest or shrub for $>^1/_{10}$ area OR emergent plants $>^1/_3$ area Plants do not meet above criteria	Treat large woody debris as forest or s need to have > 90% cover at person  points = 6 points = 4 points = 2 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	Record the rating on t	the first page
R 5.0. Does the landscape have the potential to support the hydrologic		_
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 t	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.  The sub-basin immediately down-gradient of site has surface flooding human or natural resources  Surface flooding problems are in a basin farther down-gradient  No flooding problems anywhere downstream		2
R 6.2. Has the site been identified as important for flood storage or flood con plan?	veyance in a regional flood control 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 t	the first page

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  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)  3 checks: points = 2 2 checks: points = 0	3
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 No = 0	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 ¼ 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.  □ 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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  ☑ Yes = 3□No = 0	3
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . 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	2
H 1.5. Interspersion of habitats  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.  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.	Figure
None = 0 points Low = 1 point Moderate = 2 points Moderate = 3 points po	3



H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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.	4
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
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:	
Calculate: % undisturbed habitat $0 + (6\% \text{ moderate})$ and low intensity land uses)/2] $31 = 31 - \%$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	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.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	1
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:	0
> 50% of Polygon is high intensity land use points = (- 2)	U
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	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	3
Rating of Landscape Potential If score is: $\square$ 4-9 = H $\square$ 1-3 = M $\square$ < 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? <i>Choose the highest score</i>	
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
The 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	2
— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> <li>Shoreline Master Plan, or in a watershed plan</li> </ul>	
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	
Poting of Value If some is:     2 -         1 - M       0 -	

<u>Rating of Value</u> If score is:  $\square$  2 = H  $\square$  1 = M  $\square$  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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , 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. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
— The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
<b>O</b> Yes − Go to <b>SC 1.1⊙</b> No = <b>Not a vernal pool</b>	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
OYes – Go to SC 1.2ONo = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? OYes = Category IIONo = Category III	
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> 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?	
<del>_</del>	
— Salt encrustations around more than 75% of the edge of the wetland	
— More than ¾ 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	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cuti
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? OYes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
OYes = Category IONo = Not a WHCV	Cat. I
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	
<b>○</b> Yes – Contact WNHP/WDNR and go to SC 3.4 <b>○</b> No = Not a WHCV	
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? OYes = Category IONo =Not a WHCV	

Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? 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.	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland hased on its functions.	
you will still need to rate the westaina based on its junctions.	
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? See Appendix C for a field key to	
identify organic soils. OYes – Go to SC 4.3ONo – Go to SC 4.2	
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? OYes – Go to <b>SC 4.3O</b> No = <b>Is not a bog for rating</b>	
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?   OYes = Category I bogONo – Go to SC 4.4	
<b>NOTE:</b> 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.	
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	Cat
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
OYes = Category I bogONo − Go to SC 4.5	
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?	
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:	
<ul> <li>Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems</li> </ul>	Cat. I
<ul> <li>The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the</li> </ul>	
wetland OYes = Is a Category I calcareous fenONo = Is not a calcareous fen	
3.03 15 2 3213g2.1, 1 32132.33 131.3.13 15 110 110 tu tulturious tult	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within	in its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you havin question H 1.1)	ve identified that a forested class is present	
The wetland is within the 100 year floodplain of a river or stream		
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>		
— 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 the	se priority habitats developed by WDFW	
(see definitions in question H3.1)		
OYes − Go to SC 5.1 ONo = Not	a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 5	0% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)?	OYes = Category IONo − Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremu</i>		Cat. I
of woody species?	OYes = Category IONo − Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy		Cat. II
cover) are fast growing species (see Table 7)?	OYes = Category IIONo – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 y	•	Cat. II
	a forested wetland with special characteristics	
Category of wetland based on Special Characteristics		N I A
Choose the highest rating if wetland falls into several categories		NA
If you answered No for all types, enter "Not Applicable" on Sumn	nary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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# **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?YN		
	t the figures requested (figures can be combined).	
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		Hy	ydrolo	ogic		Habita	at		
Circle the appropriate ratings										
Site Potential	Н	М	L	Н	М	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	Н	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings										

# Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H

7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M M M

8 = H,H,M

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 Circle the appropriate category
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	

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

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 (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	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 (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>meet both</b> 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 <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), 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 <b>without being impounded</b> .
	NO - go to 3  YES – The wetland class is <b>Slope</b> 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 <b>meet all</b> 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 <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	s 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 <b>Depressional</b>
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 numbe	r
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**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	Depressional
the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

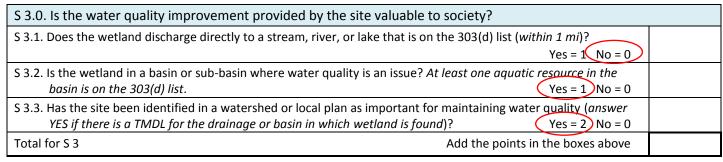
If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve v	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 horizontal distance)	o in elevation for every 100 ft of	
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 N	RCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutant	s:	
Choose the points appropriate for the description that best fits the plants in the have trouble seeing the soil surface (>75% cover), and uncut means not grazed 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	

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



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

Record the rating on the first page

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 = 0	
Rating of Site Potential If score is:1 = M0 = L	n 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 = M0 = L	n 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 = 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:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	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:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. 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) 4 or more checks: points = 3Forested (areas where trees have >30% cover) 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 ¼ 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.  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 ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  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 ft². 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	
H 1.5. Interspersion of habitats  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.  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.	Figure
None = 0 points Low = 1 point Moderate = 2 points	
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

Wetland name or numbe	r
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'etland name or number	
H 1.6. Special habitat features	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
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 (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)  Total for H 1 Add the points in the boxes above	
·	
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = 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:	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%	
$> \frac{1}{3}$ (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.	
Calculate: % 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. <i>Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs</i> 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 = I Record the rating on the first name	

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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
<ul> <li>Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.</li> </ul>	
<ul> <li>Wetland plants are typically present only in the spring; the summer vegetation is typically upland</li> </ul>	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
<ul> <li>The soil in the wetland is shallow [&lt; 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.</li> </ul>	
<ul> <li>Surface water is present for less than 120 days during the wet season.</li> </ul>	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
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.)?  Yes = Category II No = Category III	Cat. II Cat. III
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
— The wetland has a conductivity > 3.0 mS/cm.	
— The wetland has a conductivity > 3.0 mJ/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 ¾ of the plant cover consists of species listed on Table 4	
<ul> <li>— 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.</li> </ul>	Cat. I
Yes = Category I No= Not an alkali wetland	
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?  Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
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? Yes = Category I No =Not a WHCV	

SC 5.0. Forested Wetlands		
Does the wetland have an area of forest rooted within its boundary that meets at least one of		
the following three criteria? (Continue only if you have identified that a forested class is present in question H 1.1)		
<ul> <li>The wetland is within the 100 year floodplain of a river or stream</li> </ul>		
<ul> <li>Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species</li> </ul>		
— 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		
(see definitions in question H3.1)		
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics		
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I	
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2		
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I	
of woody species? Yes = Category I No – Go to SC 5.3		
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II	
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4  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	Cat. II	
<u> </u>		
Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories		
choose the highest rating if wetiana jans into several categories		

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

<u>Priority habitats listed by WDFW</u> (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. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

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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