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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of
Application No. 2004-01

WIND RIDGE POWER PARTNERS,
L.L.C.

WILD HORSE WIND POWER
PROJECT

PRE-FILED TESTIMONY OF
LERAY STREAM, REGIONAL
WILDLIFE BIOLOGIST OF
YAKIMA REGIONAL OFFICE FOR
WASHINGTON DEPARTMENT OF
FISH AND WILDLIFE
EXHIBIT 101

**QUESTION NO.1: Please describe your current position at the
Washington Department of Fish and Wildlife.**

ANSWER: Regional Wildlife Program Manager, Region 3 Yakima, WDFW. I am the primary contact for oversight of department activities related to wildlife and WDFW lands in Region 3. I am the WDFW Wildlife Program lead, directly supervising wildlife biologists that collect and interpret data, set hunting seasons, participate in research and manage lands set aside for wildlife protection. I have been employed by WDFW (previously the Washington Departments of Game and Wildlife for over 30 years. My entire career has been in eastern Washington with over 25 years in central Washington out of the Yakima Regional Headquarters. As the Wildlife Program Manager it is also my responsibility to coordinate and include best available science into WDFW's thinking. To

1 that end I have heavily integrated the information and opinions of Dr. Mike Schroeder and
2 Dr. Matt Vanderhagen into this testimony. Both are WDFW research scientists. Both are
3 nationally known experts in Sage Grouse and Shrub Steppe ecosystems respectively. They
4 are also available to provide testimony and information regarding the topics covered within
5 this document.
6

7 **QUESTION NO.2: Please describe the area where the Kittitas Wild**
8 **Horse Wind Power Project (WHWPP) is proposed to be located.**

9 ANSWER: The project site is located within the Columbia River basin near
10 Vantage, Washington. The area is characterized as rolling terrain with ridges deeply
11 incised by stream networks that drain towards the Columbia River.
12

13 The Wild Horse Wind Power Project (WHWPP) is located in the center of the
14 largest block of remaining shrub steppe habitat in Washington. Shrub steppe are natural
15 grasslands, comprised of grasses and encompassing a shrub component and in Washington,
16 primarily sagebrush. A good description of the habitat is contained in the article co-
17 authored by Matt Vander Haegen: Knick *et al.*, *Teetering on the Edge or Too Late?*
18 *Conservation and Research Issues for Avifauna of Sagebrush Habitats* (Cooper
19 Ornithological Society 2003) (Exhibit 101.1).
20

21 Shrub steppe is a State of Washington Priority Habitat. It has been given this
22 designation because of the many wildlife species dependent on it. Wildlife dependent on
23 shrub steppe include sage grouse, sage thrasher, sage sparrow, and brewers sparrow. Many
24 shrub steppe associated wildlife species, including mule deer, elk, jackrabbits, grasshopper
25 sparrow, vesper sparrow, loggerhead shrike, northern harrier, red-tailed hawk, golden
26 eagle, western meadowlark, horned larks and many other species require large areas of

1 land. Thus, management of shrub steppe wildlife tends to focus on large tracts. Smaller
2 areas of shrub steppe also are important to songbirds, mammals and reptiles, which depend
3 upon native Shrub Steppe.

4 **QUESTION NO.3: Is there much shrub steppe habitat left in Washington**
5 **State?**

6
7 ANSWER: We have lost most of the shrub steppe habitat that existed 150 years
8 ago. Shrub steppe has declined in Washington nearly 60% from historical levels (Status of
9 Washington's Shrub-Steppe Ecosystem, Dobler, et al., August 1996). Much of what
10 remains is fragmented into patches either too small to function properly or are isolated from
11 other shrub steppe habitats or both. Degradation of habitat also reduces the productivity of
12 a sizable percent of the remaining shrub steppe habitat. Shrub steppe areas with deep soils
13 were historically the most productive but were selected for farming thus leaving the poorer
14 sites in shrub steppe. The exceptions are areas with federal protection such as the Yakima
15 Training Center and Hanford Nuclear Reservation. WDFW has acquired lands to the south
16 and north of the project site in an effort to protect shrub steppe and provide for winter
17 range for wildlife. WDFW acquisition of land around the site is a powerful statement
18 regarding our view of the importance of the area. This site provides the critical linkage of
19 shrub steppe habitat south to north in Washington. Most other shrub steppe habitat has
20 been converted for residences, agriculture and other uses. Much of the remaining shrub
21 steppe habitat occurs in relatively small patches, which has diminished value. The only
22 large remaining block of shrub steppe habitat in the State surrounds the project area. To
23 the north, publicly owned shrub steppe habitat stretches along the west side of the
24 Columbia River to Wenatchee. This area includes the Colockum and Quilomene wildlife
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1 areas administered by our agency. To the south, publicly owned land (primarily on the
2 Yakima Firing Range and Hanford Nuclear Reservation) extends to the Rattlesnake Hills.
3 Public management of the Yakima Firing Range has allowed the habitat there to serve as a
4 *de facto* wildlife refuge. Dividing these two areas is a wedge of 25,000 acres of privately
5 owned land. This privately owned land shown on Exhibit 101.2 as blue and runs generally
6 from the Vantage Highway to Whisky Dick Mountain and east along Skookumchuck
7 Creek. The applicant's project, the WHWPP, is proposed in the middle of this private
8 block.
9

10 WDFW has recognized the value of this private block for years. To date, it remains
11 undeveloped and provides important wildlife values. Foremost among these is that it
12 serves as the link connecting the publicly owned wildlife lands to the north with those to
13 the south. Development of the lands will sever the north block from the south block and
14 cause unmitigatable harm to our efforts to preserve large blocks of shrub steppe habitat.
15

16 **QUESTION NO.4: What species are associated with shrub steppe habitat?**

17 ANSWER: The shrub steppe acreage in the area of the project is characterized
18 as good. An indicator species for shrub steppe habitat is the sage grouse. The sage grouse
19 previously occupied millions of acres of shrub steppe habitat in Washington and
20 throughout the West. Today, little of that habitat remains. As a result, sage grouse and
21 other species dependent on shrub steppe habitat are in decline, too. Currently sage grouse
22 populations have declined about 92% from historic levels. Similar declines are likely for
23 other shrub steppe dependent species like sharp tailed grouse, sage sparrow, pygmy
24 rabbits, ferruginous hawk and sage thrasher.
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1 **QUESTION NO.5: Has your agency taken any steps in response to the**
2 **decline of shrub steppe habitat and sage grouse populations?**

3 ANSWER: Yes. WDFW listed the sage grouse as a “threatened” species. As a
4 result of this listing, we have prepared a recovery plan. Exhibit 101.3. WDFW has
5 prioritized sage grouse for research, land acquisition, population augmentation, and
6 landowner incentives both state and federal. WDFW had focused on this site
7 (Skookumchuck), rating it as the highest priority for acquisition in Central Washington.
8 The process used to rank sites for potential acquisition combine biological importance with
9 imminence of threat to habitat. The concern that resulted in WDFW regional staff ranking
10 this area so high was the potential development of this site in the middle of a 100,000-acre
11 wildlife area. The nature of the area would be irretrievably altered from a wild land area
12 with a wilderness character to an industrial area or some other use foreign and
13 incompatible with wildlife and wildlife related recreation.
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16 **QUESTION NO.6: Describe the specific site area for the proposed**
17 **WHWPP.**

18 ANSWER: As noted in the Draft EIS, within the project site, 92% of the area
19 contains shrub steppe habitat with approximately 6% herbaceous or herbaceous/rock
20 outcrop, and less than 1% contains each of the following: pine forest, woody riparian, rock
21 outcrop and seasonal ponds. Herbaceous means a plant with green leaves. The shrub
22 steppe habitat within the project site is good quality, dominated by shrubs, primarily big
23 sagebrush and stiff sagebrush, with three tip sagebrush, antelope bitter brush and squaw
24 currant occasionally dominating. See Draft EIS at 3.5-1.
25
26

1 In addition, the project site is characterized by ridges and canyons with significant
2 springs at the headwaters. The canyons in particular serve as valuable wildlife habitat, in
3 part, because of the springs that are located at the head of these canyons. These canyons
4 include the North Fork of Whiskey Dick Canyon, Hartman Canyon, Bryant Canyon and
5 Skookumchuck Canyon. The springs providing water in these canyons are: Wild Horse
6 Springs; Skookumchuck Heights Springs; Seabrook Springs; Pine Springs; Government
7 Springs; Thorn Springs; Reynolds Springs and Dorse Springs. These springs provide an
8 important water supply in the arid region and are miles from any alternative water sources.
9 The northerly string of turbines, as proposed by the applicant, are in immediate proximity
10 to these water sources.
11

12 The canyons also provide shelter from major storms and cover for habitat, while
13 the windblown ridge tops provide a snow free area for winter foraging. This combination
14 of habitat attributes is rare in the region.
15

16 To date, we know of a total of at least 53 species of birds, which use the project
17 site, and surrounding area, these include sage grouse, coopers hawks, gyr falcons, turkey
18 vultures, white crown sparrows and Swainsons Thrush. See also Draft EIS at 3.5-3-4 for a
19 description of species seen onsite.
20

21 **QUESTION NO.7: Is the project area important to sage grouse?**

22 **ANSWER:** The Draft EIS states that sage grouse were not found on-site in the
23 EIS survey but sage grouse inhabit the project area. Sage grouse have been observed in
24 recent years in and around the WHWPP project site, including sightings of hens with
25 broods. Although no active leks were located during surveys for this project, the presence
26 of broods indicates reproductive populations occur in the area. (A lek is a traditional

1 mating ground of the sage grouse.) Sage grouse populations have dwindled to such low
2 level that birds were trapped in Oregon and released on the Yakima Training Center. A
3 radio marked female sage grouse released with this group of birds spent much of 2004 in
4 the area near this project. The vegetative make-up of the area, with the predominance of
5 sagebrush, is also conducive for sage grouse because the grouse's primary food source is
6 sagebrush.
7

8 The Washington Sage Grouse recovery plan identifies the landscape containing the
9 WHWPP as The Colockum Management Unit. The Unit connects habitat on the Yakima
10 Training Center to the south with habitat on the Moses Coulee Unit on the North. There
11 are no other connections south to north in Washington State. Two populations of sage
12 grouse currently exist in Washington, to the north in Douglas County, and to the south on
13 the Yakima Training Center. The intact shrub steppe landscape between the Kittitas
14 Valley and the Columbia River is the necessary connection to link these two populations
15 for recovery.
16

17 The project also lies within an area designated by Washington Audubon as an
18 "Important Bird Area." The Important Bird Area program is Washington Audubon's effort
19 to scientifically identify places in the state that are essential to maintaining healthy
20 populations of birds. In particular, this area is an Important Bird Area because of the
21 variety of species present at various times of the year. Migratory birds follow the ridge
22 tops as their movement corridors, resident birds inhabit the shrub steppe and riparian areas
23 during the summer months and some wildlife reside in the area as their wintering grounds.
24

25 The project area is also located within the Pacific flyway, one of the four principal
26 north-south bird migration routes in North America. The Pacific flyway extends from the

1 arctic regions of Alaska and Canada to Central and South America and is bounded roughly
2 by the Pacific Ocean to the west and the Rocky Mountains to the east. Within the flyway,
3 numerous groups of birds may travel along narrow migration corridors. The project's
4 location along the east portion of the Cascades places it within migration corridors of
5 several bird species, including songbirds, waterfowl and raptors. See also Draft EIS at 3.5-
6 2-3.
7

8 **QUESTION NO.8: To what extent do deer and elk use the area?**

9 ANSWER: The project site is located within habitats designated by WDFW as
10 winter range for mule deer and elk. It is also located adjacent to the Quilomene elk
11 migration corridor and is approximately 0.5 miles from the Colockum elk wintering and
12 migration corridor. In particular, the riparian corridors of Whiskey Dick Creek and those
13 associated canyons provide cover and water for the mule deer and elk in this area.
14

15 In addition, other species known to occur in the project site area include a number
16 of species of bats and other mammals such as badger, coyote, pocket gopher, ground
17 squirrels, rabbits (black tail and whitetail), voles, and mice. Several species of reptiles and
18 amphibians are also present in the project area.
19

20 In general, there is great diversity of wildlife on the project site and in the vicinity
21 of the project. This fact, in combination with the existence of good shrub steppe habitat,
22 makes this area extremely sensitive and susceptible to impacts from industrial
23 developments like the WHWPP proposal.
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1 **QUESTION NO.9: Will WHWPP cause significant impacts to wildlife and**
2 **habitat?**

3 ANSWER: Yes. There will be a number of direct and indirect impacts to
4 wildlife and wildlife habitat due to the construction and siting of WHWPP. Impacts
5 include: (1) direct loss of habitat due to construction and siting of facilities; (2) direct loss
6 of wildlife from project operations; (3) indirect impacts to wildlife and habitat from project
7 operations; (4) cumulative impacts to wildlife and habitat; and (5) recreational impacts.
8

9 **QUESTION NO.10: Let's take these in kind. Please describe why WHWPP**
10 **will cause impacts to wildlife habitat, in particular the steppe shrub habitat.**

11 ANSWER: The project will both temporarily and permanently adversely impact
12 native grassland plant communities important to wildlife. Construction impacts to wildlife
13 habitat will include clearing, excavation, fill and grading associated with construction of
14 towers, roads, utilities and substations. Grassland plants will be destroyed by these
15 activities. There will be temporary loss of habitat throughout the broad area required for
16 construction activities, permanent loss of habitat from the foot print of the completed
17 project and general reduction in habitat value of the site until disturbed areas are fully
18 restored (if ever). How well construction is managed and the time of year (e.g., wet soils
19 versus dry soils) has a direct relationship to the amount and degree of construction damage.
20 For example, lithosol soils are sensitive if wet. If any construction or operations harm
21 these soils when wet, it is impossible, or at best, extremely difficult, to mitigate that harm.
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1 **QUESTION NO.11: Let’s talk specifically about the sage grouse. Will there**
2 **be impacts to sage grouse from the WHWPP proposal?**

3 ANSWER: Yes, there will be. As I mentioned before, there is a large body of
4 information suggesting that sage grouse use the project site and the area surrounding the
5 site as habitat. Historically, sage grouse occurred in large numbers in and around the
6 Kittitas Valley, and were a hunted species until the 1980's. Numbers have declined
7 significantly in Washington, primarily due to habitat loss. See Ex. 101.3, WDFW Sage
8 Grouse Recovery Plan 2004. The Colockum Management Unit in the Sage Grouse
9 Recovery Plan which is within and adjacent to the WHWPP is identified as having
10 potential for breeding, connectivity and seasonal use. See *id.* at 60. Two separate
11 populations of sage grouse currently exist in Washington, to the north through Douglas
12 County, and to the south on Yakima Training Center. The intact shrub steppe landscape
13 between the Kittitas Valley and the Columbia River is the necessary connection to link
14 these two populations for recovery. Losing the connectivity between the two units through
15 the development of WHWPP and other private holdings surrounding it would have a
16 devastating impact on the preservation and recovery of the sage grouse in Washington.

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19 The applicant has taken the position that there will be no connectivity impacts to
20 the sage grouse because private lands to the east and the west of the project site will remain
21 intact. However, there is no certainty that the remainder of this private in holding will not
22 also be converted into some use incompatible with wildlife and wildlife related recreation.
23 Lands to the west are private lands and, under current zoning in Kittitas County, can be
24 fragmented into smallholdings for residential development, with the associated severe
25 impacts to shrub steppe habitats and species. To date, the applicant has not given
26

1 sufficient and serious consideration to the loss of connectivity that will be caused by its
2 proposal. This loss of connectivity will have significant and devastating impacts on our
3 ability to implement the Sage Grouse Recovery Plan and on continued existence of sage
4 grouse in Washington. You might ask why can't the grouse just go around? Public lands
5 occur to the west and the east. Unfortunately in many cases when wildlife migration
6 corridors are blocked they do not go around they just stop. The bigger the barrier the more
7 likely that animals will not adapt to its presence. In the DEIS for this project, the proponent
8 acknowledges the potential loss of connectivity in the area around the site. This loss is
9 discounted because the lands around the site would remain in shrub steppe. This is the
10 single biggest concern for WDFW. The project itself creates significant connectivity
11 concerns but the biggest threat is if this is phase one of a build out that converts this entire
12 private holding into use incompatible with wildlife and wildlife related recreation. If the
13 proponents assertion that the remainder of the area would remain in shrub steppe habitat
14 was assured, the connectivity concerns of WDFW would be reduced.

17 Sage grouse diets consist primarily of sagebrush. At times they will eat insects and
18 small amounts of other vegetation but they subsist on sage leaves year around and cannot
19 survive without sage. They do not eat seeds, meaning they cannot adapt to eat agricultural
20 crops or other seed species. Their very survival, therefore, depends on the existence of
21 viable habitat containing sagebrush. The loss of shrub steppe habitat caused by the
22 proposal, therefore, will directly reduce the ability of this area to support sage grouse and
23 will drive sage grouse away.

25 Also, it is commonly known that ground-dwelling birds are sensitive to elevated
26 structures in their otherwise flat or un-treed habitats. Sage grouse are known to avoid

1 towers, trees or elevated structures that can serve as raptor perches. Grassland species, like
2 the sage grouse, have been documented to avoid areas within 100 meters of wind turbines.
3 Thus, we know that the turbines could likely drive sage grouse from the project areas. See
4 Exhibit 101.4 (U.S. Fish and Wildlife Service Guidelines).
5

6 **QUESTION NO.12: What would be the direct wildlife impacts from project**
7 **operations?**

8 ANSWER: The completed project will result in indirect mortality of birds and
9 bats striking turbines, meteorological towers, guy lines and possibility new overhead
10 transmission feeder lines. There may also be significant fatalities for bat populations. Very
11 recent studies have documented extremely high bat mortality rates at other wind farms.
12 Bats are an important part of the ecosystem.
13

14 **QUESTION NO.13: What will be the cumulative impacts to wildlife and**
15 **wildlife habitat?**

16 ANSWER: There are two types of cumulative impacts that will be caused by the
17 proposal. One, this proposal should be, and has not been, considered in light of the two
18 other wind tower proposals being considered in Kittitas County. The two other proposals
19 are located closer to Ellensburg on lands that do not have the same important value for
20 wildlife habitat as the project site. These lands are closer to Ellensburg and have already
21 impacted by urbanization and human development. Because of the amount of proposed
22 wind development being considered at the same time in Kittitas County, priority and
23 consideration should be placed on preserving the important wildlife habitats located in the
24 vicinity and on the site of WHWPP.
25
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1 WDFW has worked with proponents of wind power to craft statewide guidelines
2 for the protection of fish and wildlife resources when siting and operating wind power
3 facilities. See August 2003 Wind Power Guidelines attached as Exhibit 101.5. One of the
4 objectives of these guidelines is to steer wind projects away from undeveloped native
5 shrub steppe lands and toward cropland and developed areas where fish and wildlife
6 habitat is already highly disturbed. This site is the opposite of what WDFW intended in the
7 development of the guidelines. The mitigation for the footprint of the site may be
8 consistent with the guidelines but the landscape context for the site is not favorable to
9 wildlife. If WDFW were asked to designate general areas where it would prefer not to see
10 development occur, this would be one of those areas. The applicant seeks to develop some
11 of the best quality shrub steppe lands remaining in the State. The WHWPP proposal at the
12 current site appears inconsistent with this aspect of the 2003 Wind Power Guidelines.
13
14

15 Another aspect of cumulative impacts that should be considered involves further
16 expected development near WHWPP. Currently, and as seen on the map attached as
17 Exhibit 101.2, the WDFW and the Department of Natural Resources own large sections of
18 the habitat in this area. One exception is the area located in blue on the map, including the
19 proposed site for WHWPP. These are private holdings. Development of WHWPP across
20 these private lands in blue would further truncate the existing steppe shrub habitat in this
21 area. The applicant has expressed interest in expanding into some of this area. Losing
22 continuity in this area would create additional adverse wildlife impacts and further
23 diminish the connectivity function of these lands.
24

25 Neither of these cumulative impacts has sufficiently been considered by the
26 WHWPP proposal.

1 **QUESTION NO.14: Will there be recreational impacts?**

2 ANSWER: Yes. There will be significant recreation impacts. Many people use
3 the project area and adjacent public lands for activities such as hunting, hiking, horseback
4 riding, shed antler gathering and other activities. Currently, it appears that the applicant
5 may preclude some of these public uses on the lands. Lost access to public lands and
6 recreation opportunities are impacts from the project that have yet to be mitigated. In
7 addition, access to this area by the public exists only via Beacon Ridge Road. The
8 applicant states that use of this would only be by “controlled access.” Undoubtedly this
9 means there will be a loss of access to the public through this road. This is an impact that
10 is not accounted for to date by this proposal.
11

12 Finally, wildlife and bird aficionados to see the incredible amounts of wildlife in
13 this area have used this site for years. Impacts to the wildlife and habitat, both direct and
14 indirect, will also impact the recreational users. Those impacts have yet to be accounted
15 for by this proposal.
16

17 **QUESTION NO.15: Has adequate mitigation to address significant impacts**
18 **been adopted for WHWPP?**

19 ANSWER: No. Adequate mitigation has not been adopted to mitigate the
20 impacts for WHWPP. The most important impact is the landscape level impacts, i.e., the
21 loss of connectivity between the shrub steppe habitat to the north and south of the site.
22 The applicant has refused to acknowledge this impact and thus has not proposed any
23 mitigation for it. But the impact is real and severe and cannot be fully mitigated. This
24 land is an important part linking the shrub steppe habitat to the north and the south.
25
26 Connectivity between these areas will necessarily and unavoidably be diminished as a

1 result of this project. That is why we encourage projects to develop on less sensitive lands.
2 Partial mitigation of the impacts could be achieved by using this project as a means to
3 assure that the remaining privately held land in this area important to connectivity is
4 protected for wildlife purposes. Protecting all of the other private land would not be as
5 good as protecting all of that and the project lands, too, but it would diminish somewhat
6 the inevitable losses that will occur as a result of this project.
7

8 **QUESTION NO.16: Friends of Wildlife and Wind Power have suggested**
9 **that the turbines on the north part of the project be re-located to the south and east.**

10 **What is WDFW's view about that alternative?**

11
12 ANSWER: Not enough information has been developed about the wildlife
13 impacts of the project or that alternative to be able to make a comparison. Re-locating
14 turbines as proposed by FWWP may or may not be beneficial to wildlife (and the impact
15 may differ among species). More and better information would be needed to make that
16 evaluation.
17

18 **Thank you.**

19 fowwp/pft (stream)
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