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5 **BEFORE THE STATE OF WASHINGTON**  
6 **ENERGY FACILITY SITE EVALUATION COUNCIL**

7 In the Matter of Application No. 2004-01  
8 WIND RIDGE POWER PARTNERS, LLC.  
9 WILD HORSE WIND POWER PROJECT

EXHIBIT 71 (TC-T)  
COUNSEL FOR THE  
ENVIRONMENT'S PREFILED  
DIRECT TESTIMONY

10 **COUNSEL FOR THE ENVIRONMENT'S PREFILED DIRECT TESTIMONY**  
11 **WITNESS: TIMOTHY P. CULLINAN**

12 **A. BACKGROUND**

13 Q. Please state your name and business address for the record.

14 A. My name is Timothy P. Cullinan. My field office is located at 421 Washington Harbor  
15 Rd., Sequim, WA 98382.

16 Q. Where are you employed?

17 A. Audubon Washington. This is the Washington State Office of the National Audubon  
18 Society, a non-profit bird conservation organization.

19 Q. What is your position at Audubon Washington?

20 A. I am the Director of Science and Bird Conservation.

21 Q. What are your duties and responsibilities as a Director of Science and Bird  
22 Conservation?

23 A. I am Audubon Washington's staff scientist. I have the primary responsibility for  
24 ensuring that Audubon Washington's policies and conservation activities are based on  
25 sound, credible science. This includes conducting research of scientific literature,  
26 obtaining expert opinion, and synthesizing information to advise our policy staff. At

1 present, my primary duties are to 1) direct Audubon Washington's Important Bird  
2 Areas (IBA) program in Washington state, 2) integrate the IBA program with the  
3 Washington Natural Heritage Program, 3) provide scientific support to efforts to review  
4 and revise Washington's Forest Practices regulations, 4) assist Audubon Washington's  
5 policy staff in addressing the impacts of wind power development on wildlife.

6 Q. Do you have a current copy of your resume available?

7 A. No. I will make one available as soon as possible, but I have included a copy of my  
8 biography temporarily. *See Exhibit (TC-71-1)*

9 Q. Do you rely on any other documents in reviewing the project?

10 A. Yes. I reviewed the important area designation by Washington Audubon. (TC 71-2)

11 Q. Are you familiar with Wind Ridge Power Partners LLC's application to build the Wild  
12 Horse Wind Power Project (Wild Horse)?

13 A. Yes.

14 Q. What documents have you reviewed?

15 A. I have reviewed the Draft Environmental Impact Statement (DEIS) and supporting  
16 materials on EFSEC's web site. I also participated in a visit to the project site on  
17 December 22, 2004 with Chris Taylor and several local residents.

18 Q. Is the information contained in these sections and exhibits within your area of  
19 expertise?

20 A. Yes.

21 **B. BIRDS**

22 Q. Do you have any concerns regarding the protocols used by WEST Inc. in its study of  
23 the projected avian impacts?

24 A. The fixed-point survey method used by WEST Inc. is a legitimate and credible means  
25 for obtaining information about bird occurrence and abundance over the short term.  
26 Audubon has concerns, however, that a single season or single year of sampling may

1 not give an accurate picture of bird communities on a project site. Our experience with  
2 bird censuses has shown that dramatic differences in the presence and abundance of  
3 birds may occur from year to year. There is general consensus in the ornithological  
4 community that a single year's surveys are not sufficient.

5 Q. Do you have any reason to believe the estimated mortality rates outlined in the  
6 application materials are incorrect?

7 A. The method by which the annual mortality rates are estimated is sound, if one assumes  
8 that a single year's avian survey data is an accurate reflection of long-term bird  
9 occurrence and abundance. If this assumption is not necessarily valid, as noted above,  
10 then the long-term estimated mortality rates may be inaccurate.

11 Q. Are you familiar with the flight corridors birds use in Washington?

12 A. I know of several locations that may be considered corridors, but there are likely some  
13 that I don't know about.

14 Q. Please explain for us what a flight corridor is?

15 A. A flight corridor is a narrow expanse of airspace through which birds travel in higher  
16 than normal densities, during migration or dispersal. These corridors are usually  
17 associated with specific topographical or other natural features, such as coastlines,  
18 mountain ridges, river valleys, or riparian corridors.

19 Q. Do any of the known corridors pass through Wild Horse?

20 A. I don't know of any flight corridors that pass through the Wild Horse project site. In  
21 much of the West, terrestrial birds appear to migrate across a broad front, except in the  
22 cases as noted above. The Wild Horse project site doesn't appear to have the necessary  
23 topographic features that would result in the concentration of unusually high numbers  
24 of migrating terrestrial birds over the site. Aquatic birds are concentrated in the  
25 Columbia River canyon east of the site, and it is likely that songbirds and some raptors  
26 use the Columbia as a corridor too. While migrating raptors may use the varied

1 topography of the project site to take advantage of updrafts or rising thermal air masses,  
2 it is unlikely that they are concentrated in unusually high densities there. On the other  
3 hand, due to the unfragmented nature of the habitat of the entire  
4 Quilomene/Colockum/Whiskey Dick region (i.e. it is unbroken by cultivated fields or  
5 other development) it probably functions as a habitat corridor for dispersing birds  
6 associated with shrub-steppe habitats.

7 **C. RAPTORS**

8 Q. Studies conducted for the applicant indicate the approximate number of raptor  
9 deaths that are projected to occur if the project is built. Please describe for us what  
10 qualifies as a raptor and the importance of raptors in the ecosystem.

11 A. Raptors are large predatory birds. While the term “raptor” is commonly used to refer to  
12 eagles, hawks, and owls, most ecologists recognize that ravens and crows can also be  
13 considered raptors.

14 Q. Are you aware of any raptor species present in Wild Horse area other than those listed  
15 in the material you reviewed?

16 A. I am not certain that raptor species other than those listed occur in the Wild Horse area.  
17 However, based on the location and habitat, I suspect that if the avian inventories had been  
18 more intensive and had occurred over a longer duration, the Rough-legged Hawk and Short-  
19 eared Owl would be detected in winter or on migration, and Swainson’s Hawk would be  
20 detected on migration.

21 Q. Assuming the raptor mortality estimates included in the Applicant’s materials are  
22 accurate, do you have any concerns about the impact on the overall population numbers  
23 of the affected species?

24 A. Assuming that the estimates are accurate, and the largest share of the mortality occurs  
25 in common species such as Red-tailed Hawks and American Kestrels, then I am not  
26 concerned that on-site mortality will lead to noticeable reductions in the populations of

1 raptors. The one exception is in the case that Ferruginous Hawks are killed. The  
2 population of this species in Washington is at such critically low levels that any  
3 mortality may have a detrimental impact on the population. The risk of Ferruginous  
4 Hawk mortality in the project area, however, appears low.

5 Q. Assuming the raptor mortality estimates included in the Applicant's material are  
6 accurate, do you have any concerns about the impact on the ecological community in  
7 the Kittitas Valley region?

8 A. No. If the mortality estimates are correct, it is unlikely that there will be any noticeable  
9 impact on the larger ecological community due to raptor mortality in the project area.

10 **D. ENDANGERED OR THREATENED SPECIES**

11 Q. Are there any endangered avian species that use the Wild Horse area?

12 A. No.

13 Q. Are there any threatened avian species that use the Wild Horse area?

14 A. There is the potential for Bald Eagles to occur on the site. Three other species that have  
15 the potential to use the site—Ferruginous Hawk, Greater Sage Grouse, and Sharp-tailed  
16 Grouse—are listed as threatened by the Washington Fish and Wildlife Commission. Looking  
17 beyond threatened and endangered species, it should be noted that several other species that are  
18 (or could be) on the site are listed as Species of Concern by the U.S. Fish and Wildlife Service.  
19 These include Northern Goshawk, Ferruginous Hawk, Peregrine Falcon, Sharp-tailed Grouse,  
20 Burrowing Owl, and Loggerhead Shrike. The Greater Sage Grouse is a Candidate for listing as  
21 threatened or endangered by the U.S. Fish and Wildlife Service.

22 Q. Do you have any concerns regarding the affect of the project on sage grouse?

23 A. Yes. This is the species Audubon is most concerned about. The sage grouse  
24 population in Washington numbers only about 1,000 individuals. It is isolated from other sage  
25 grouse populations in the Great Basin, and has no chance of increasing through immigration of  
26 grouse from other states. It is important to restore connectivity of habitat in Washington to

1 prevent further fragmentation of the state's sage grouse population. Although the risk of  
2 incidental mortality of sage grouse from collisions with turbines is very low, there is increasing  
3 evidence from studies of other open-country grouse that tall structures in the landscape render  
4 habitat less suitable, because these species avoid areas where tall structures are present.  
5 Audubon is concerned that the presence of turbines on part of the project area may adversely  
6 affect habitat that could contribute to sage grouse recovery efforts.

7 Q. Will the project affect the recovery of sage grouse in the area?

8 A. No one can say with certainty whether the project will or will not affect sage grouse  
9 recovery in the area. The behavioral responses of sage grouse to the presence of wind turbines  
10 have not been studied. There is a risk, however, that on at least one part of the project area  
11 future establishment of sage grouse leks may be precluded by the close proximity of turbines.  
12 Experience with other species of prairie grouse has shown that installation of tall structures in  
13 open habitat may result in reduced capacity of that habitat to support breeding birds. These  
14 grouse appear to have an adverse behavioral response to the presence of tall structures. This is  
15 thought to be predator avoidance behavior (even if predators are not present).

16 On the other hand, if efforts to bring surrounding lands into public ownership are  
17 successful, and grazing practices on those lands and on the project site are carefully managed  
18 to allow restoration of the shrub-steppe habitat, then the project will likely have a net beneficial  
19 impact on sage grouse and other shrub-steppe associated species.

20 **E. PASSERINES**

21 Q. What is a passerine?

22 A. Passerines are the so-called perching birds, commonly called songbirds. Major families  
23 in this group include flycatchers, crows and jays, swallows, wrens, thrushes, warblers,  
24 sparrows, blackbirds, and finches. The group also includes some important shrub-steppe  
25 associated birds such as shrikes, thrashers, and larks.

1 Q. Do you have any concerns regarding the projected mortality of passerines at Wild  
2 Horse on overall population numbers for the various affected species?

3 A. If the estimated mortality rates are correct, then I am not concerned that on-site  
4 incidental mortality (i.e. mortality caused by collisions) of passerines will result in  
5 significant declines in local or regional passerine populations. I have somewhat more  
6 concern that the presence of turbine towers may render some habitat less suitable for  
7 shrub-steppe associated passerines.

8 **F. MITIGATION MEASURES**

9 Q. Are there any mitigations measures not being suggested by the Applicant which you  
10 believe should be considered?

11 A. The high, relatively level ground in the northwestern sections of the project area has  
12 been identified as the site that has the highest potential for contributing to Greater Sage  
13 Grouse recovery. Maximum effort should be made to avoid potential detrimental  
14 impacts in this area.

15 **G. CUMULATIVE IMPACTS**

16 Q. Are you involved in the review of any other wind power projects in Kittitas  
17 County?

18 A. I am familiar with the Kittitas Valley and Desert Claim projects, but I have not formally  
19 reviewed them.

20 **H. ALTERNATIVE PROJECT DESIGNS**

21 Q. Have you reviewed the proposed alterations to the project suggested by Friends of  
22 Wildlife & Wind Power (FWW)?

23 A. I am familiar with the general framework of the alternate proposal, but I have not  
24 reviewed maps of the alternate turbine layout, and I am not familiar with the habitat or  
25 bird communities in the areas southeast of the current project area. I have not been able  
26 to obtain enough information to assess the potential impacts of the alternate design.

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Therefore, I cannot say at this time whether the proposed alterations would be detrimental or beneficial to the design of the project in regard to avoiding wildlife impacts.