



Oregon Natural Desert Association

February 25, 2009

Crook County Planning Department
William Zelenka
300 NE 3rd St.
Prineville, OR 97754

Dear Mr. Zelenka:

Thank you for the opportunity to submit these comments regarding the West Butte Wind Power Project (WBWPP) permit application. The Oregon Natural Desert Association (ONDA) strongly supports renewable energy development and recognizes the need for domestic energy independence and solutions to global climate change. As the region and state pursue opportunities such as the one presented by the West Butte Wind Project, we must also ensure that we protect the unique and precious natural heritage that we enjoy as Americans.

Our natural open spaces protect clean air and water, support biodiversity and store carbon, aiding efforts to address global warming. The site of the proposed project by Pacific Wind Power possesses several features that will help minimize the project's impact on the environment. It is near existing transmission infrastructure, which will help avoid the additional biological and visual impacts that are a result of new transmission construction. The project is also located near other developed lands and does not overlap with proposed or existing Wilderness areas; further, initial study also suggest that the project will have limited visual impact on nearby natural areas, such as the Badlands Wilderness Study Area or the Pine Mountain Observatory, prized by the Central Oregon community.

Despite these preferable features of the West Butte Wind Project proposal, no large-scale development comes without some impact. As outlined in Appendix A, there are sixteen species of concern in the area proposed for development. This includes Greater Sage-Grouse which are currently proposed for listing under the Endangered Species Act (ESA) because of widespread declines in Sage-Grouse populations throughout the West. We are concerned with the close proximity of the development to a known Sage-Grouse lek. The activity at this lek is located near the edge of current Sage-Grouse distribution and is known to have declining populations

over the past several years. We are pleased that Pacific Wind Partners has proposed mitigation to address some of the potential impacts of development and we look forward to continuing to work with Pacific Wind Power and Crook County to identify the most effective mitigation solutions. Several modifications of proposed mitigation are outlined in Appendix A along with a review of the biological study report that was recently completed for the project.

To help mitigate the ecological impacts of the West Butte Wind Project and future wind development, we also urge Crook County and Pacific Wind Power to support Wilderness designation for several special areas near the wind proposal (see attached map). These areas represent the most wild and natural areas in Central Oregon's High Desert, and were selected through a thorough inventory process performed by the BLM, ONDA staff and volunteers. Although renewable energy development is appropriate for some areas, the permanent protection of other nearby public lands will ensure that important habitat remains available for native fish and wildlife and that the wild open spaces for which Central Oregon is known remain for present and future generations.

ONDA would also like to note that the West Butte Project permit has been submitted during a period of rapid renewable energy expansion in our region. As a result of the speed and urgency of this development, regulators, land managers and other interested parties (including the industry itself) are playing "catch-up" in attempt to understand the potential impacts of wind development on our natural resources. Currently in Central and most of Eastern Oregon, there is no commonly agreed upon standard for conducting biological studies with which to assess the appropriateness of a wind power project's location and the potential environmental impact of a proposed project.

This lack of common guidelines for proposals has resulted in difficulties both for those preparing the scientific studies and for community members attempting to assess the project's potential social and environmental impacts. In order to facilitate a more efficient process in considering these types of proposals, all involved parties must cooperate to create a set of standards for our region. Although a great deal of thorough care and discussion will need to be involved in the creation of such guidelines, they must also be created in a timely manner so as to:

- 1) Not unduly delay the development of currently proposed appropriate projects;
- 2) Proactively guide wind development to sites with high resource values and low social and environmental impacts; and
- 3) Create an "even playing field" so projects proposed after the creation of a set of guidelines are not viewed as being unfairly held to a higher set of standards which earlier projects were not.

As a first step in helping to create the guidelines described above, ONDA is currently working to compile existing data, such as species distribution information and land management requirements, to help steer development towards sites which would have the minimum impact and controversy associated with them. This information will be made publicly available, and will be used in a cooperative, pro-active manner with developers in order to help guide their successful implementation of “clean”, ”green” energy projects. We hope that Crook County and Pacific Wind Power will work with us to help develop and implement these recommendations in the future.

ONDA strongly supports renewable energy development and we believe that with proper cooperation, our community can help achieve the goal of reduced carbon emissions and energy independence while at the same time protecting our finite, local natural resources. If you have any questions about our comments, please do not hesitate to contact me or ONDA’s Executive Director, Brent Fenty, at (541) 330-2638.

Sincerely,

Gena Goodman-Campbell
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APPENDIX A: BIOLOGICAL STUDY REVIEW COMMENTS

ONDA sincerely appreciates the efforts that Pacific Wind Power has made to assess the environmental impacts of their proposal and incorporate our suggestions and feedback into their study. We appreciate the opportunity to share our concerns and help form the process of developing renewable energy in eastern Oregon. It is our hope that this open dialogue will continue throughout the proposal process. The discussions will likely serve as a test case and example for the development of future industry standards within Oregon's High Desert.

Upon reviewing the biological study performed by Northwest Wildlife Consultants, Inc. for the WBWPP, we have several initial concerns that we would like to bring to the Pacific Wind Power's and Crook County's attention. The comments listed in this document should not be viewed as a comprehensive response to issues raised by wind power project proposals in eastern Oregon or even a comprehensive list of advice and guidance for the WBWPP.

Owing to the requirements of a timely response to the WBWPP Biological Study Results, the lack of a pre-agreed on framework for surveying/monitoring and mitigation, and the relative novelty of wind power proposals in general in eastern Oregon, the comments contained within this document should be viewed as a "first draft". This draft should be used to provide starting points and guidance on many, but not all, issues involved with the assessment of the environmental impacts of locating a wind power generation site at West Butte.

Overall comments are presented in the following section as a summarized bulleted list first. These comments are expanded and their associated concerns explained in more detail in later sections. Suggested changes and improvements to current biological studies and mitigation efforts are listed by species in the final section of this document.

SUMMARY OF COMMENTS:

Many concerns reflected in the comments below arise from the lack of study guidelines. The comments are meant to help guide the acquisition of further information at the site, and to help guide the proposal of effective monitoring and mitigation efforts associated with the project. Concerns include:

- 1) The biological studies documented the presence of 16 species on the proposed site which are on state, federal or other conservation lists (See list on page 6).
- 2) Based on the high number of special species documented at the site, the realities of trying to effectively quantify biological systems, and the emerging trend of longer (2-3 years) pre-approval surveys in other similar projects, the current dataset presented is too short, sparse or often not collected in a manner applicable to facilitating informed decision-making regarding the potential impacts on the site's natural resources, or the adequacy of any mitigation efforts.

- 3) Many methodological descriptions are too vague to facilitate comparison with other relevant studies, or to assess the quality of the data that they present. In addition, results are often presented in a format which is not compatible with making comparisons to other existing studies. This “apples to oranges” approach does not facilitate the use of existing studies and data to reduce the bias in assessing potential impacts on wildlife at this site, or to assess the site’s “value” to each species, compared to other potential sites.
- 4) The proposed mitigation efforts in many cases are vague. This, and their association with such a sparse dataset, makes it very difficult to assess their effectiveness in mitigating potential impacts even regarding the few species addressed in this section of the report. In addition, many efforts listed as “mitigation” are in fact only “monitoring” and do not serve to lessen or mitigate the potential impacts of the proposed project.

DETAILS REGARDING OUTLINED COMMENTS:

1) The biological studies documented the presence of 16 species on the proposed site which are on state, federal or other conservation lists.

The documentation of the presence of sixteen species with special conservation status on the proposed project site is a source of concern. In addition to having special conservation status, many of the species listed are particularly vulnerable to impacts from wind turbines. Amongst these are Golden Eagles, Ferruginous Hawks, and silver-haired bats.

Since information is not compiled by species in the report, it is difficult to piece together the totals of information presented for each. Even in Appendix B and C, information provided for each species is often qualitative in nature, rather than quantitative, and therefore not comprehensive. The following is a list of the sixteen species documented at the proposed project site, their conservation status, the data collected regarding the species during the study, and some of the specific potential impacts and associated management recommendations for each species. Specific survey/monitoring and mitigation suggestions are presented by species in the final section of this document.

The species that would likely be impacted the most by this development is the Greater Sage-Grouse, which is listed as a federal “Species of Concern,” and a state “Vulnerable” species. Greater Sage-Grouse are currently under consideration for listing under the federal Endangered Species Act. Sage-Grouse were observed 8 times during avian use surveys, 32 times in-transit to avian use survey plots, and during special status surveys. These observations included groups of up to 11 birds. A lek site was documented on site. 3-4 individual birds, including up to one female, were observed on the lek during each the 3 surveys conducted. A nest was suspected on the site but was not located.

Sage-Grouse will likely be adversely affected by the proposed wind development, potentially contributing to the extirpation of Sage-Grouse from this site. Direct impacts to Sage-Grouse may include mortality directly by turbine blades while indirect impacts include future Sage-Grouse avoidance of the site as the result of habitat quality degradation (numerous studies summarized in Molvar 2008). Even the construction of simple anemometer towers has been attributed to the direct and immediate declines in surrounding Sage-Grouse populations (Molvar 2008). An additional source of mortality associated with development in Sage-Grouse habitat results from the increase in nesting and perching sites of raptors and ravens, which prey on Sage-Grouse.

USFWS recommendations include siting wind turbines more than five miles away from Sage-Grouse leks (2003, Manville 2004). Oregon Department of Fish and Wildlife Guidelines to protect category one habitat surrounding Sage-Grouse leks require a minimum buffer of three miles (C. Hagen pers. comm.). A five-mile buffer surrounding the on-site lek would encompass the entire project site and a three-mile buffer would encompass nearly the entire project site.

Other sensitive species that were observed on the proposed site during the biological study are:

Golden Eagle	Sagebrush lizard	Small footed myotis,
Feruginous Hawk	Brewer’s Sparrow	Long-eared myotis
Loggerhead Shrike	Pallid bat	Yuma myotis
Mountain Quail	Townsend’s western big-eared bat	Northern Goshawk
Sage Sparrow	Silver-haired bat	Greentinge indian paintbrush

2) Based on the high number of special species documented at the site, the realities of trying to effectively quantify biological systems, and the emerging trend of pre-approval surveys (2-3 years) in other similar projects, the current dataset presented is too short, sparse or often not collected in a manner applicable to facilitate informed decision-making regarding potential impacts on the site’s natural resources, or the adequacy of mitigation efforts.

Although many similar proposals are now undergoing pre-approval surveys of two to three years, only one year of data has been collected to determine the potential impacts of the WBWPP. Only one individual survey (large plot avian surveys) encompassed the entire year. Other surveys were only conducted for one season (spring avian surveys), a single survey event (raptor nest search), very brief efforts (bat surveys), or no formal survey at all (big game). Such a “system” of surveys does not:

1) Account for variation in seasonal (or annual) use such as value of the site as a migration route for passerines or bats in the spring or fall;

- 2) Account for variation in nesting initiation such as in the Ferruginous Hawks and Golden Eagle observed near nests deemed “unoccupied”; or
- 3) Provide enough credible evidence to debate the development’s potential impacts on species groups such as big game.

Example 1: BIG GAME

The WBWPP Biological Report does not include any specific big game studies, despite the admission of the report that the site is located in an important big game wintering area. During other survey activities, 59 observations of mule deer were recorded for the site, primarily during the winter months. Groups ranged in size from 2 to 14 individuals. 99 detections of pronghorn were documented at the site during late winter and early spring, with group size ranging from 1 to 35 individuals.

The WBWPP Report goes on to state: “wind power generation has generally been deemed to be compatible with deer, elk and pronghorn”. This statement, used to dismiss the need for big game surveys at the WBWPP site, is only supported by minimal, anecdotal information and is not accompanied by a supporting citation. In contrast, the National Wind Coordinating Committee (2002) asserts that:

“Wind farms also may disrupt wildlife movements, particularly during migrations. For example, herd animals such as elk, deer and pronghorn can be affected if rows of turbines are placed along migration paths between winter and summer ranges or in calving areas.”

This assertion by the National Wind Coordinating Committee (NWCC), is backed up by numerous studies cataloging the detrimental effects of big game disturbance (including pronghorn and mule deer) by activities and infrastructure that would be integral to the development of the WBWPP such as: small roads, human disturbance in winter ranges and construction activity (Edge and Marcum 1991, Grover and Thompson 1986, Johnson and Lockman 1979, Johnson and Wollrab 1987, Powell 2003, Rowland et al. 2000, Sawyer and Neilson 2005, Sawyer et al. 2005, and Van Dyke and Klein 1996).

In recognition of the potential impact of renewable energy development on migration routes, the Western Governors’ Association (2008) adopted the following Wildlife Corridors Initiative:

“In particular, Western Governors’ Association, in coordination with the WWHC [Western Wildlife Habitat Council], should ensure that development of the renewable energy zones: 1) includes identification of relevant wildlife corridors and crucial habitat from the relevant state DSS [Decision Support System], and 2) considers appropriate policies and actions to avoid, minimize, or mitigate impacts in these sensitive areas.”

Example 2: RAPTORS

Raptor surveys for the Biological Report were conducted over the course of two days. While the use of a single, two-day helicopter survey is an efficient method of locating (occupied or

unoccupied) raptor nests in an area, it is also potentially likely to underestimate the actual occupancy of those nests. An underestimate could occur for two reasons:

- 1) The survey may not coincide with nest occupancy. For example, a single, brief survey conducted too early could miss late nest initiation at a preexisting nest. Conversely a single late season survey could have missed a nest that was established but happened to fail that year, and was subsequently abandoned for the season.
- 2) Many raptors have multiple nest locations within a nesting location although only one actual nest will be used for egg laying at a time (e.g. Ferruginous Hawks as described in Fitzner et al. 1977). Therefore, surveying during only a single season could mistakenly identify a nest as “unoccupied” when it is in fact only “not being used that season”, but still an important nest site reserved for use in following years.

Additionally, no data was provided on the condition of the nests observed or if raptors documented in the area were observed displaying any nesting or mating related behavior (such as carrying nesting materials).

Example 3: BATS

The preliminary surveys conducted at the site detected two species, hoary and silver-haired bats, with the highest fatality rates at wind power sites in the Pacific Northwest. It is therefore important to document bats’ pre-construction geographic extent and seasonal use of the entire project site in an organized, systematic survey for 1-2 years. Arnett et al. (2008) report as much as 84% of silver hair bat fatalities occurring between April and mid-June (over a month before the first bat survey took place at the proposed project site). The current data as presented is insufficient to plan or assess any mitigation efforts for these bat species.

- 3) **Many methodological descriptions are too vague to facilitate comparison with other relevant studies, or to assess the quality of the data that they present. In addition, results are often presented in a format which is not compatible with making comparisons to other existing studies. This “apples to oranges” approach does not facilitate the use of existing studies and data to reduce the bias in assessing potential impacts on wildlife at this site, or to assess the site’s “value” to each species, compared to other potential sites.**

Methodological descriptions and reporting standards for the BWPP Biological Study should be on par with professional peer reviewed journal requirements allowing for a fully cited justification of the methods elected for use, as well as a detailed description of the elected methods. Methods should be described in enough detail to allow reproduction of the study, and to allow comparison of data from one study with another.

We suggest that the special status wildlife surveys methods indicate the time of day they were conducted, the number of people conducting them and the dates they were conducted. For the preliminary bat surveys, helpful methodology details would include information regarding if all four bat survey points were surveyed during each of the three site visits, if “several hours” were spent surveying each of the four bat survey points during each visit or if “several hours” were divided over the four survey points during each visit. This paucity of methodological information makes it very difficult to compare data for this site with other studies, or to assess the individual quality of the data. By not knowing survey “effort” it is difficult to assess the implications of the results.

For instance, the bat surveys do not provide any sort of occupancy data which can be compared to other sites. They do not describe any sort of proportion of the area used by bats, but merely that in some spots that were checked briefly, some species were found, some of which were species of concern, some of which are species which frequently suffer high mortality at wind project sites. Similar studies demonstrating the range of possible results from other potential sites and developed sites should be shown for comparison purposes. Units of effort, reporting and methods should be similar to those used in existing studies and surveys.

Some attempts at comparisons are made in the report, most notably for raptors and bird mortality information. However, both comparisons prove to be of little use for the following reasons:

- Raptors-The comparisons made between the use of this site in comparison to other sites is significantly hindered by the low quality of nest searching data at the WBWPP site as described above and the lack of standardization of data (i.e. by creating densities etc.) between the two studies.
- Bird Mortality-Data on bird fatalities from another wind project was presented to help facilitate an understanding of the potential magnitude of bird fatalities, by species, at the WBWPP site. Species in the table were ordered by number of individuals found dead at the existing wind project. Data was also provided as to each species’ percent composition of the local population. The resulting table gives a distorted view of each species’ fatality rate at the site, resulting in confusion and misinformation rather than increased clarity. If one were to do the math with the available data, they would realize that many species at the existing site died in disproportionately high numbers when compared to their percent composition of the population present. This weighted re-organization of the data table shows that many species, although occurring in low numbers at the referenced site, actually had a higher likelihood of being killed by the turbines than some of the more common species. These higher risk species often were species of particular concern such as: Brewer’s Sparrow (federal SOC) moved from 20th to 10th place in the list; and Ferruginous Hawks (federal SOC) moved from tying for 21st place to tying for first place for having the highest likelihood of an individual getting killed by a turbine. Additionally there seems to be an effort on stressing merely the direct

mortality resulting from the turbine blades as the major issue of concern, even going so far as to state that several bat and bird species will avoid impact because of their flight patterns occurring below the turbine blades path. However, this line of argument only serves to divert the focus from the equally important and population damaging effects of potential habitat degradation and loss, animal displacement, and disturbance contributing to lower productivity.

- 4) The proposed mitigation efforts in many cases are extremely vague. This, and their association with such a sparse dataset, makes it very difficult to assess their effectiveness in mitigating potential impacts. In addition, many efforts listed as “mitigation” are in fact only “monitoring” and do not serve to lessen or mitigate the potential impacts of the proposed project.**

The actual “Mitigation” listed in the report is very sparse. “Mitigation” as presented in the report can be classified into three categories: 1) Monitoring; 2) Avoiding or minimizing impacts to resources; and 3) Balancing unavoidable impacts to natural resources with enhancements at this or another location.

In order to affectively mitigate the impacts of the proposed development on wildlife, the proposed monitoring efforts should:

- a) Be carefully planned in order to attribute, or discount, the effect of the project on any changes in the monitored population, thus allowing the data to be used in future site assessments to judge the impact of future projects and therefore help avoid recurrence of these impacts, and
- b) Continue for the life of the project and utilize the data to trigger specific management reactions, such as, “finding ‘X’ impact to ‘Y’ species will trigger ‘Z’ action for ‘Q’ period of time ”.

While the Sage-Grouse monitoring proposed by the report does meet these criteria, the monitoring proposed for other species is not adequate to mitigate the potential impacts stated. The remaining “mitigation” efforts in the report fall under the other two categories-monitoring and minimizing. These proposals are hindered by the fact that they do not provide for any mitigation of impacts monitored, are extremely vague in description and non-committal or involve delays in providing the detailed description and implementation of post-construction monitoring for an undisclosed amount of time. It is also not specified to whom the results of these monitoring studies be provided.

Below are specific concerns with the mitigation proposals outlined in the WBWPP biological report that should be addressed by Pacific Wind Power:

- Reporting of bird and bat fatalities: The proposed monitoring of bird and bat fatalities does not describe what sort of effort will be involved in searching for dead or injured animals. It is not clear if this task is left to maintenance personnel, trained professionals or state or federal agency personnel. This section should indicate how often searches will be conducted and where and what thresholds of fatality levels will trigger changes in management at the site. Additionally, this monitoring effort should be performed on a consistent schedule in order to help reveal trends in mortality.
- Preparation of an avian and bat monitoring plan: No timeline is provided for when this plan will be developed or implemented. The timing of this monitoring will have dramatic effects on the result. For example, if this plan is implemented 3 years after the turbines are installed, it is likely that overall bat populations will have already been reduced and fewer overall bats (including those killed by turbines) will be observed. There is no commitment as to how this information will be used in the management of this site. Furthermore, there is not enough pre-construction data (or essentially none, depending on the species) to make this data useful in the decision making process for other sites. For example, the bat use and site population would need to be described fully in order to say “at a site with a bat population demonstrating this level of use and species composition, the project resulted in this level of mortality for each species”.
- Raptor nests within the project area will be monitored: This describes an action which should have been taken as part of the biological assessment of the site, not during “post-construction”. Only one “year” of data exists, which is of minimal utility for characterizing the site’s “pre-construction” status. Pre-construction nest surveys were so grossly conducted as to make it difficult to compare that one year’s data with later, more intense surveys. It is not mentioned what sort of management actions the results would trigger; if “populations” are found to “decline”, what changes will be made in the operations of the site? How much “decline” in which or how many species is deemed sufficient to trigger management changes? The reality is that the site may have few enough raptors nesting on it that any changes in the site’s population parameters will be hugely variable. Such a small sample size will not allow for the detection of fine, or minute, changes in the population. For example, if a pair of raptors is nesting at the site, and then is killed by the turbines, it is then too late to take any management action to save the site’s raptor population: 100% of the population is dead. E.g. with one pair of raptors on site you can have 0%, 50% or 100% mortality, or 0% or 100% nesting activity: you cannot start making management changes when there is evidence of 5% mortality, or a “slight” decline in nesting activity. Therefore raptor population levels and nesting activity may be too gross a scale to be much help in managing the site. Better to get very good data *beforehand*, and assess the potential impacts to the raptors which use the site, and decide *beforehand* if the risk is acceptable, rather than to determine later that this site impacted the raptor population too much.

- Sage-Grouse Lek Monitoring Study: The proposed monitoring study for Sage-Grouse is a good example of proper mitigation. Still, the report needs to specify how long Pacific Wind Power will make payments to ODFW after the initial lek failure. The report also specifies that payments will be made for the failure of “adjacent leks” but needs to specifically define adjacent in terms of distance from the project site. Also, initial PRE-construction surveys must be thorough enough to guarantee a clear understanding of the lek locations and status, so any later changes can be understood better in the context of the agreement. This agreement must be carefully written out with the assistance of lawyers to prevent dispute later, and to prevent the avoidance of payment if leks indeed fail.
- The “sensitive habitats” that will be flagged are not listed: The report indicates that developers will “minimize construction within sensitive areas”, but it does not list what sensitive areas will be constructed on, quantify what constitutes a minimal amount of construction within these sites, or specify which sites will be affected. Since these areas have theoretically been mapped, and a construction plan generated, we need to know this information to make an informed decision as to whether we find it acceptable or not.

Additionally, we suggest that the following specific changes/additions be made to the mitigation proposals outlined by Pacific Wind Power:

Sage-Grouse:

- Do not construct overhead cables within five miles of an active lek. Cables should be buried or run insulated, over-ground.
- Use structural deterrents on all constructed infrastructure to deny additional raptor and raven nesting or perching sites.
- Provide long-term (life of project) access rights for ODFW and University approved researcher(s) to study the project’s effects on the local Sage-Grouse and other wildlife population demographics and displacement.

Big Game:

- Protect and maintain the quality and water availability at all current natural water sources on site including springs, seasonal ponds, and intermittent streams.
- Avoid construction during big game seasonal use of the site.
- Big game and seasonal forage availability surveys should be conducted before, during and after the site’s development allowing for the quantification of changes in big game use and behavior as a result of the WBWPP development.

Bats:

- Document bats' pre-construction geographic extent (occupancy) and seasonal patterns of use for the entire project site in an organized, systematic survey for 1-2 seasons spanning from April 1 to October 1.
- Provide a turbine cut-in at 6m/s triggered by mortality monitoring and survey data.

Raptors:

- More thorough and extensive raptor pre- through post-construction nest surveys and observations. Surveys should be conducted throughout the nesting establishment period, not as a single event, to avoid missing failed nesting attempts or late nest initiations. Nest condition should be noted (i.e. has the nest been maintained, or is it collapsing) as well as nesting related behavior of birds (carrying nesting material, pairs observed).

Other:

- Mitigation, minimization and monitoring efforts need to be designed to address the remainder of the 16 species listed above.
- Provide opportunity for livestock grazing permit retirement at and near the project to increase habitat quality for native wildlife including Sage-Grouse.
- Financial contribution to ODFW and/or university research into wildlife impacts (including Sage-Grouse) associated with wind development.
- Support local efforts to permanently protect nearby areas (see map) that provide essential wildlife habitat and open space as federally-protected Wilderness.

Thank you again for the opportunity to present our comments on the proposed West Butte Wind Power Project. We hope that our suggestions will be taken into account as this process moves forward and we look forward to answering any questions you might have.

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