Conversation about the US Fish and Wildlife Service's Interim Guidance on Avoiding or Minimizing Wildlife Impacts from Wind Turbines

March 18, 2004
Washington, DC

Meeting Summary

A. Introductions and Welcome

Abby Arnold, RESOLVE, opened the session by reminding participants that the purpose of the meeting was to share information and increase understanding of *the **US Fish and Wildlife Service's Interim Guidance on Avoiding or Minimizing Wildlife Impacts from Wind Turbines.*** The National Wind Coordinating Committee (NWCC) Wildlife Workgroup convened the meeting to be a constructive contribution to determining the impacts of wind development in the United States. The goal is to better understand the intentions of the guidance, how the guidance is being interpreted, and determine next steps. Participants at the table, on the phone and observers in the room then introduced themselves. A broad group of stakeholders from industry, NGOs and the US government were present (see Attachment 1). Participants reviewed and agreed to the meeting ground rules with the participants, in particular the ground rule that protected meeting participants from making comments about what another participant said at the meeting.

B. Opening Comments from Fish and Wildlife Service

Benjamin Tuggle, U.S. Fish and Wildlife Service (FWS)

Mr. Tuggle thanked the NWCC for holding the meeting. He noted that the FWS intended to be flexible and incorporate comments into the revised version of the guidance. Mr. Tuggle acknowledged that due to the time constraints in writing the guidance, the document is not perfect. Because of the incomplete information, the guidance was deemed interim and voluntary. FWS intended the two year comment period to be the opportunity to gather information from implementing the guidelines on real projects and from comments by the wind industry and NGOs. The guidance was not meant to be onerous to the industry, but to identify possible problems in the early stages of development before issues became serious. Mr. Tuggle voiced his commitment to work collaboratively in addressing questions and posing solutions. Mr. Tuggle stressed again that the guidance is not a check list, a cook book, or a regulation, but a tool to spur conversation and exchange ideas about the way to approach environmental protection at wind sites. FWS intended that local groups would decide on the exact process for specific projects, using the guidance as a resource.

Mr. Tuggle stated that the guidance was developed in response to the request of the Secretary of Interior, as part of the department's response to the energy crisis of 2000. The Secretary wanted to support energy development on public lands, but also wanted to ensure that wind kept its "greenness," and thus the FWS guidance was drafted. A participant questioned the need for guidance at this time. A wind industry representative commented that he felt that the industry has taken environmental concerns seriously, and

had worked to reduce impacts for a number of years. He said that the industry was very surprised to have this specific of direction without a vetting process. Other attendees also voiced their frustration that there was no consultation outside of the federal family on the guidance. FWS responded that the vetting process is still continuing. And, expressed that the guidance is a way to keep and reinforce the trust and confidence in the wind industry. It was decided that while the initial writing process was not ideal, it is time to focus on the future with attention to making constructive substantive changes.

Some attendees responded that though the national guidance is intended as voluntary, some states are discussing adoption of the guidance and some USFWS field offices are applying the guidance as is. This is problematic since the guidance is intended to be voluntary. The FWS staff commented that they are becoming more aware that locals may codify the guidance and agreed that clarification of the guidance and FWS's intent is needed. Attendees recommended that the USFWS send a letter to FWS field offices, state natural resource agencies, state and local planning and zoning commissions, the American Wind Energy Association (AWEA), the NWCC, and any other interested party who requests it.

FWS staff noted that when the comment period closes in July 2005 a new version will be released based on the best available knowledge at that time. If future information learned is contradictory, the guidance could be changed. The guidance will continue to be voluntary.

Al Manville, Rob Hazlewood and Robert Willis, U.S. Fish and Wildlife Service

Background
Mr. Manville introduced his colleagues Rob Hazlewood and Robert Willis. Mr. Manville restated that he believes that wind power is "good", and that FWS only wants to help the industry keep bird and bat mortality and habitat impacts low. He said that there are some places that are good for development and some that are not, and that the guidance tries to provide tools to identify the sites appropriate for development. Mr. Manville, summarized that the guidance was designed to avoid and minimize impacts, evaluate potential sites, and study pre- and post-construction impacts. The concern is that as the demand for electricity grows, wind development will increase and precautions need to be taken in order to prevent potential impacts. Mr. Manville stated that industry needs to internalize the costs of its environmental externalities. He credited the industry for the already $6 million spent to study wind development's impact on birds, but noted that more research is needed. He stressed that the FWS is not new to guidance development. In the 1970s, 1980s, and 1990s FWS helped develop guidance for transmission lines, recently developed guidance for communication towers, and is in the process of developing guidance for the fishing industry.

Mr. Manville reminded the attendees that by statutory regulation if development is on federal lands or uses federal money or permits, the developer needs to involve the local FWS field office for Section 7 compliance regarding any listed species and/or designated critical habitat. While not required to consult with FWS on private lands, he suggested it

was probably in the best interest of the developer to contact the nearest field office in order to reduce risk of Endangered Species Act, Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act infractions. He assured the group that if a developer works with FWS in a good faith effort, if there is a problem, the agents are able to use their discretion regarding investigations, prosecutions, fines and penalties.

Guidance History

Mr. Manville provided a detailed history of the guidance development. In November 2001, Secretary Norton and Secretary Abraham held a national conference to discuss plans for energy development on public lands. One of the recommendations of this multi-stakeholder group was for the FWS to develop guidelines for development of wind farms in an environmentally friendly manner. At a meeting in January 2002 at Palm Springs hosted by BLM, the FWS committed to developing guidance. In part as a follow-up to the conference since the need for voluntary land-based guidance had been previously suggested, in February 2002, the federally staffed Wind Turbine Siting Working Group was created to develop guidelines. R. Hazelwood, R. Willis and A. Manville (chair) were nominated, 15 FWS staff represented on the WTSWG.

Historically, initiatives like this one are developed administratively or by congressional action, and this guidance is no different. In December 2002, FWS and BLM worked on this wind power initiative to maximize conservation and comply with statutory requirements. They drafted a memorandum of understanding. Because of the pressure on BLM to produce a Programmatic EIS for all western Federal Lands, it was determined that there was not enough time for a formal Federal Advisory Committee under the Federal Advisory Committee Act. However, since the guidance is voluntary rather than regulatory, and because it is to be used extensively on private lands, information was solicited from consultants working within the wind industry, from agency personnel familiar with wind issues, and from other individuals. Some of the information used in the guidance was based on research, recommendations, and findings published by the National Wind Coordinating Committee's Avian Subcommittee. The guidance was reviewed by all 7 Regions of the Fish and Wildlife Service then released for regional review to the 78 field offices. The guidance was finally reviewed by the Washington Office Directorate, the Solicitor and Director, and was finally released to the public on July 10th 2003.

Case studies

Mr. Manville and Rob Hazlewood provided a few cases where biologists and wind companies successfully used the guidance. In Galveston, Texas, 30 turbines were proposed for a wetland, but FWS worked with the developer to reduce the number to five turbines within an industrial area. In Woodward, OK, FPL Energy is restoring habitat for prairie chicken leks (breeding areas) while developing a wind facility in the area. In Montana, 20 sites were evaluated and ranked.

Participants commented that the Montana situation was unique, as data was collected at a number of sites before development occurred, but that is not financially feasible for most developers. Data collection costs can be prohibitive. A participant commented that the

method has not been widely used, and it is difficult to know if the method will determine what the real impacts of a development are. FWS noted that a reason for the long public comment period is to gather information on how the method is or is not working in the field.

Discussion of Guidance Document

First, Mr. Manville handed out an expanded appendix which FWS thought might be helpful to provide background information that was used but not specifically sited in the draft guidelines (see Attachment 3). Mr. Manville noted that in the next draft, there will be a revised appendix including all the information used for each individual guideline. This will provide the scientific references that support the guidance. Mr. Manville noted that reference material is not always available to the public, because some studies originate with biologists in field offices or is considered proprietary by a company and thus not released. Most of these studies have not been written up or published.

FWS Site Evaluation

FWS Guidance Pages 2-3

There were a variety of comments and concerns regarding the Site Evaluation Recommendations 1 and 2 (listed below). The following bullets highlight the conversation themes, but they are not listed in the order of importance.

1. Identify and evaluate reference sites, preferably within the general geographic area of the proposed facility. Reference sites are high-quality wildlife areas where wind development would result in the maximum negative impact on wildlife (i.e., sites selected to have the highest possible rank using the protocol). Reference sites are used to determine the comparative risks of developing other potential sites.

2. Evaluate potential development sites to determine risk to wildlife and rank sites against each other using the highest-ranking reference site as a standard. Although high-ranking sites are generally less desirable for wind energy development, a high rank does not necessarily preclude development of a site, nor does a low rank automatically eliminate the need to conduct predevelopment assessments of wildlife resources or post-development assessments of impacts.

- **Reference Site**
  The purpose of selecting a reference site is to have high quality habitat and species diversity to compare with the proposed development site. It would represent the area where a wind plant should not be developed. While a realistic reference site is preferred, it does there not have to be a good wind resource or even have transmission or road access. For example, a state wildlife refuge could be used for a reference site.

- **Initial Assessment Time and Resources**
  A question was raised regarding the extent of time and resources needed to conduct the initial evaluation. According to FWS Staff, the purpose of this initial review is to provide a subjective scale of comparison between the different sites and to determine what pre-development studies need to be conducted on potential impacts of the project. Initial evaluations are not meant to be time consuming or cumbersome. After the background research has been concluded (population distribution studies,

migration pathways, and breeding maps), FWS estimates that the average site will on average require a two-hour assessment.

- **Site Ranking**
  The developers were concerned that sharing information regarding alternative sites offers opponents of a project the ability to raise issue with the selected site. The concern for improper use of such information was noted. A participant noted an alternative approach for site analysis is to compare a new site with a similar site that has already been developed. Then, from that data, consultants can project the potential range of impacts.

- **Number of Sites Required**
  The exact number of sites needed is not included in the guidance. In one of the case studies referenced in Montana, 20 comparison sites were noted. Concern was raised that since this case study was referenced, others might think 20 sites is desired or even required. FWS staff stated this was a special situation where the developer requested 20 sites. FWS staff said that only enough sites need to be tested to determine the relative quality of the primary site.

- **Federal, State, or Academic Biologists**
  Developers noted a concern that by including federal, state, or academic biologists in the site evaluation, proprietary information could be available through the Freedom of Information Act and similar statutes at the state level. Second, it is difficult for federal, state, or academic biologists to join the site evaluation team because they are often doing their own field work during the same period of time that the evaluations need to be conducted. Third, scheduling the involvement of federal and state staff can extend the time frame of the review process, increasing the cost of site evaluations. A participant suggested an alternative to direct participation by federal or state biologists. The federal, state or academic biologist could conduct a technical review and approve site evaluation study protocols. These protocols could then be applied at all sites.

- **"Voluntary" Guidance**
  Some attendees were under the opinion that there was conflicting policy between headquarters emphasis on "voluntary" and flexibility in use and interpretation of the guidance and with some field offices stringent interpretation and application of draft guidelines. Meeting participants provided a number of examples where field offices are enforcing the guidance, or local jurisdictions are using the guidelines in their permit review. Meeting participants agreed that a letter from headquarters to regional FWS staff, states, local jurisdictions, as well as other parties clarifying that the guidance is voluntary is needed. FWS stated that headquarters is committed to informing staff biologists in the field of the inherent flexibility of the guidance [see the attached April 26, 2004, memo from the FWS Director to the Regional Directors addressing this issue]. In response to a request, FWS also agreed to share the list of regional leads on wind power for the FWS. A participant suggested that the

expectations of field staff also be shared, so that stakeholders would have an idea of what is considered a reasonable request and timeline for response.

- **Project Size**
  Participants voiced concern that the size of a project was not appropriately addressed in the guidance. Some viewed project size as a primary risk factor and believed that it needs to be given more weight in the site analysis. FWS staff requested the language on the topic be proposed.

- **Previously Started Projects**
  FWS staff noted that they do not expect sites already in development to start over or retrospectively do an initial evaluation, but that the project use the applicable sections of the guidance for operations and monitoring.

- **Availability of Information**
  Meeting participants discussed whether enough information was truly available to make decisions during the phase one evaluation because some studies take years over multiple seasons to gather enough evidence (for example, to determine migration routes or breeding areas). Participants noted that the presence of birds does not necessarily connote risk and thus while those factors need to be studied, the presence of nests or migrating birds are in themselves not reasons to stop development.

- **Eco-Regional Planning**
  The guidance does not encourage looking at the context of the site in terms of regional biodiversity. For instance, one site has a large amount of a particular species, but in the rest of the region this species is considered "at risk". In this instance, the site's value as a habitat may need to be weighed differently. A representative from the Nature Conservancy shared that they are looking at the 64 eco-regions in the US and are developing plans for protection. This produce could provide a resource regarding what species and habitat issues may need to be addressed.

FWS Site Development Recommendations (#1-10)

FWS Guidance Pages 3-4

(Note: The numbers below reference the recommendation number in the US FWS Guidance. The text in italics is quoted from the guidance.)

1. Endangered Species

"Avoid placing turbines in documented locations of any species of wildlife, fish, or plant protected under the Federal Endangered Species Act."

- FWS staff stated that it was not their intention to imply that developers can't go near endangered species, but that an "incidental take permit" under Section 10 may be needed and consultation with FWS is suggested.

2. High Risk Areas

"Avoid locating turbines in known local bird migration pathways or in areas where birds are highly concentrated, unless mortality risk is low (e.g., birds present rarely enter the rotor-swept area). Examples of high concentration areas for birds are wetlands, State or Federal refuges,

private duck clubs, staging areas, rookeries, leks, roosts, riparian areas along streams, and landfills. Avoid known daily movement flyways (e.g., between roosting and feeding areas) and areas with a high incidence of fog, mist, low cloud ceilings, and low visibility."

- Recommendations are needed to avoid impacts at wetlands, on migration routes, and in low visibility conditions, in contrast to generally referencing risk sites.

3. Bats

"Avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies, in migration corridors, or in flight paths between colonies and feeding areas."

- What is definition of "near"? The scientific literature has not determined yet how far away is considered "safe". Suggestions included: adding "resident bats and staging and swarming, and foraging" as factors needing attention.

4. **Raptors**

"Configure turbine locations to avoid areas or features of the landscape known to attract raptors (hawks, falcons, eagles, owls). For example, Golden Eagles, hawks, and falcons use cliff/rim edges extensively; setbacks from these edges may reduce mortality. Other examples include not locating turbines in a dip or pass in a ridge, or in or near prairie dog colonies."

- This section was recommended for re-writing as it has been misused. A potential re-wording could be…"unless site specific data show potential harm, ridge development does not pose a problem." The developers commented that after a year of studies, they can know where the birds are in the area and can avoid those spots. Other language suggested is to say "Avoid cliff rims, where raptors are…."

5. Turbine Configuration

"Configure turbine arrays to avoid potential avian mortality where feasible. For example, group turbines rather than spreading them widely, and orient rows of turbines parallel to known bird movements, thereby decreasing the potential for bird strikes. Implement appropriate storm water management practices that do not create attractions for birds, and maintain contiguous habitat for area-sensitive species (e.g., Sage Grouse)."

- Participants asked for references documenting preference for turbine arrays to be set parallel to migration routes, versus perpendicular. A report by Edison Electric Institute concluded that parallel arrays of electric power lines are preferred, but that macro and micro siting factors needed to be taken into consideration. [1]
- Participants noted that the term "migration" needs to be defined, as local or regional. Also, "may" should be added to the language to indicate that this guidance is suggested not required. A developer requested that "needs of industry" be incorporated into this section, along with wildlife considerations. For example the guidance could note that placing turbines down wind from one another reduces power potential. Additionally, "area sensitive species", needs to be defined.

6. Habitat Protection

[1] Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions With Power Lines: The State of the Art in 1994. Edison Electric Institute. Washington, D.C. Chapter 3, Line Placement, Orientation, and Configuration: 17.

"Avoid fragmenting large, contiguous tracts of wildlife habitat, where practical, place turbines on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not practical, select fragmented or degraded habitats over relatively intact areas."

- Participants suggested more general language, recommending that developers consult with FWS staff to help avoid fragmentation. It was also stated that the language should take into consideration different types of habitat quality, more than just developed and non-developed.

7. Prairie Grouse

"Avoid placing turbines in habitat known to be occupied by prairie grouse or other species that exhibit extreme avoidance of vertical features and/or structural habitat fragmentation. In known prairie grouse habitat, avoid placing turbines within 5 miles of known leks communal pair information grounds)."

- The different species of prairie grouse need to be separated as considerations for each are different. Another concern raised was how much land developers are being asked to avoid, as there is a large difference between a five mile radius and five miles squared. FWS staff said they would look into this. Potential items for inclusion in this section are creation of buffer areas and cost analysis of looking at developing in areas with lower wind resources and lower risk to species.

8. Infrastructure

"Minimize roads, fences, and other infrastructure. All infrastructure should be capable of withstanding periodic burning of vegetation, as natural fires or controlled burns are necessary for maintaining most prairie habitats."

- The guidance needs to indicate if burning is only for prairie habitat or for other habitats as well, for example timber. FWS staff agreed to clarify what burning applies to.

9. Habitat Restoration Plan

"Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. For example, avoid attracting high densities of prey animals (rodents, rabbits, etc.) used by raptors."

- No comments were made.

10. Fencing and Livestock

"Reduce availability of carrion by practicing responsible animal husbandry (removing carcasses, fencing out cattle, etc.) to avoid attracting Golden Eagles and other raptors."

- Concerns were raised about the language recommending fencing out livestock. FWS commented that the intent was not to suggest that landowners in the West will be fenced out from grazing livestock.

FWS Turbine Design and Operation Recommendations (#1-6)

FWS Guidance Page 4-5

(Note: The following reference the recommendation number in the US FWS Guidance. The text in italics is quoted from the guidance.)

1. Guy Wires

"Use tubular supports with pointed tops rather than lattice supports to minimize bird perching and nesting opportunities. Avoid placing external ladders and platforms on tubular towers to minimize perching and nesting. Avoid use of guy wires for turbine or meteorological tower supports. All existing guy wires should be marked with recommended bird deterrent devices (Avian Power Line Interaction Committee 1994)."

- Guy wires are no longer an issue for commercial wind turbines. However, they are still used for met towers, as the cost for a cement base can be prohibitive and disruptive to habitat, especially at the earliest wind data gathering period of a project. Industry participants stated that they were concerned about this potential for higher costs. More information and further discussion is needed on this point

2. Lighting

"If taller turbines (top of the rotor-swept area is >199 feet above ground level) require lights for aviation safety, the minimum amount of pilot warning and obstruction avoidance lighting specified by the Federal Aviation Administration (FAA) should be used (FAA 2000). Unless otherwise requested by the FAA, only white strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. Solid red or pulsating red incandescent lights should not be used, as they appear to attract night-migrating birds at a much higher rate than white strobe lights."

- Different opinions were voiced on which types of lighting are acceptable. There appeared to be a discrepancy between what FAA may allow and the FWS's estimation of impacts of different lights on birds.

3. Tower Height

"Where the height of the rotor-swept area produces a high risk for wildlife, adjust tower height where feasible to reduce the risk of strikes."

- Cost tradeoffs associated with modifying tower height and decreasing power produced with saving birds' lives need to be evaluated. There was also some debate regarding the reality of a "smear effect".

4. Electric Power Lines

"Where feasible, place electric power lines underground or on the surface as insulated, shielded wire to avoid electrocution of birds. Use recommendations of the Avian Power Line Interaction Committee (1994, 1996) for any required above-ground lines, transformers, or conductors."

- No comments were made.

5. Monitoring Tools

"High seasonal concentrations of birds may cause problems in some areas. If, however, power generation is critical in these areas, an average of three years monitoring data (e.g., acoustic, radar, infrared, or observational) should be collected and used to determine peak use dates for specific sites. Where feasible, turbines should be shut down during periods when birds are highly concentrated at those sites."

- Questions were raised about the risk reduction benefits and associated costs of using specific tools: marine radars, acoustic, Doppler weather radar, infrared imagery and night vision equipment, and if the guidance was suggesting that these tools should be used at all sites. FWS responded that the tools were listed to share what resources are available to monitor birds.

- One participant noted that the suggestion to turn off machines in response to birds flying into an area, may not be a problem, if there is a cap on number of (hours, days, times) the requirement is applied and that the level of risk that triggers turn off be compelling to reduce mortality.

6. Upgrading

"When upgrading or retrofitting turbines, follow the above guidelines as closely as possible. If studies indicate high mortality at specific older turbines, retrofitting or relocating is highly recommended."

- No comments were made

Next steps

Communication

- A letter is needed clarifying the intent of the guidance (see Attachment 4). The letter should be sent to at least the National Association of Counties, The National Association of State Energy Offices, the National Wind Coordinating Committee, the American Wind Energy Association and the National Governors Association.
- Meeting participants were encouraged to send all available and relevant research to Al Manville, at USFWS.
- Short-courses, similar to those sponsored by the Avian Power Line Interaction Committee are desired.
- Send Robert Willis preferred modifications to draft guidance language.
- Team of technical consultants and the environmental community could work together to try and draft specific language.
- Conduct workshops for field offices, consider including developers and NGOs
- Interagency communication: BLM, USDA, EPA

Studies

- Clarify what is known about migration paths off the east coast, consider specific species and routes
- Conduct a meta-analysis of all studies conducted to date to determine what can be generalized about what is known and not known about impact of wind development on avian and bat species.
- Develop better picture to develop predictive models, mortality rates
- Develop a list of best management practices, including the primary areas for the next 1,000 MW of development. Focus could include: prairie grouse, Appalachia and Allegheny ridges and shore issues.
- Find funding to support small development in grasslands to study bird interactions.
- Organize GIS maps, create overlays of wind resources and sensitive areas (AWEA and TNC are in discussion.)
- Utilize ornithologists and the academic community as to where birds are and their habitat needs
- Conduct a critical investigation of study methodologies to validate their use. What is the value of using observation, acoustical, thermal imagery, or radar techniques,

for predicting risk? What about using analytical tools to reduce the costs and timeframe, such as Nexrad weather radar. What can these methods do and not do.

- Need Research that is not only funded by the wind industry in order to increase the credibility of research that is conducted.
- Partners in Flight are working on global population estimates and will be vetted by national groups to frame mortality rates and determine what percentage of the population will be impacted. It will be easier to scale risk when we know what the relative impacts are. Then can determine what amount of loss is acceptable.
- Need to look at the relative risk between climate change and other energy, need more tools to have conversation about it. Water impact, air quality impacts, biological diversity impacts per gig-watt

Other Ideas

- Start rewriting the guidance now, do not wait until after review period ends, so there can be discussion of the new language before a revised draft is published.
- Discussion on MBTA risk. What might a prosecution result in? What does a consultant tell a developer? Does biological significance play a role?

Postscript

As of June 21, 2004, in response to the March meeting, the USFWS has taken the following course of action: The Service committed to 3 actions prior to finalization of the Interim Guidelines at the end of the 2-year comment period. These were: (1) writing a letter for distribution of our field offices, states, local planning agencies, NGO's, and the wind industry explaining the voluntary and flexible nature of the guidance and providing more detailed direction on how it is to be applied (Attachment 4); (2) providing a detailed description of the data which led to the recommendations concerning wind development in prairie grouse habitat; and (3) holding multi-stakeholder workshops on the Interim Guidelines and their implementation. The letter to the field offices and others was signed by the Director on April 26, 2004, and distributed as promised. The detailed description of prairie grouse data has been drafted and is currently in review by members of the Service Wind Turbine Siting Working Group and other prairie grouse experts. A draft agenda and logistics for the multi-stakeholder workshops are currently being developed by Rob Hazlewood and should be completed by the end of June.

Attachment 1

Participants

At Table:
Wally Erikson
Kevin Rackstraw
Paul Kerlinger
Peter Goldman
Bob Thresher
Jim Newman
Jim Lindsay
Ed DeMeo
Al Manville
Benjamin Tuggle
Robert Willis
Rob Hazlewood
Donna Meyer
Ellen Paul
Tom Gray
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Dick Anderson
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Mark Southerland
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Danny Gogal
Kevin Garlick
Greg Jackson
Laurie Jodziewicz
Charlie Karustis
Gregory Miller
Robert Paladino
Daniel Niven
David Perri
Wayne Ostlie
Russ Romme

Attachment 2

Washington State Wind Siting Guidelines

Wally Erickson, West Inc.

Due to the energy crisis in the west in 2000-2001, BPA sent out an RFP for 1,000 MW of windpower. In response, the Washington State Department of Fish and Wildlife (WADFW) developed a set of wind siting guidelines in Fall 2002. It was developed internally to help guide field biologists who were being asked to comment on proposed projects. The Renewable Northwest Project, a coalition of environmental and consumer groups and renewable companies, expressed concern about the guidelines. The WADFW expressed a willingness to work collaborative to edit the guidelines. The final negotiated guidelines were based on scientific input from CH2MHill's Andy Linehan and West, Inc, Wally Erickson. Chris Taylor of Zilkha was also involved the process. The guidelines are broken down into three sections: pre-project assessment, mitigation of impacts, and the formation of a mitigation bank. They are currently just a pilot program and will be re-evaluated after 5 years. The guidelines were forged in consensus with the underlying assumption that if projects are done correctly, avian impacts would be minimal but that habitat impacts needed to be addressed. Post construction studies are also required for three years. If after the 5 year pilot period is over and if the consultants estimates of impacts are close, then those monitoring requirements may be lessened.

Section 1:

The first section is a pre-project information review, somewhat analogous to the FWS site evaluation. The developer must gather information from resource agencies, studies in similar habitats and initial review of the site. Next it is determined what future studies are needed, what the micro-siting issues are within the project, and protocols for gathering the needed data. This process includes habitat mapping, vegetation, including quality, which plays a important role in determining mitigation plans. In eastern WA, there concern is higher for raptors, state threatened species, so WADFW surveys were expanded to 1 mile of the project. General avian use surveys are also required. A minimum of one season is required, if use is considered high, addition seasons may be recommended. Most projects have had more than a single season worth of data. The size of the area, number of turbines, topography, and layout of the project are factors in determining the studies needed.

While avoiding prime sites is preferable, the guidelines use habitat mitigation as the primary means for habitat protection. The guidelines encourage development using existing road and transmission, unguided towers, and avoiding high bird concentration areas and threatened and endangered species. In Washington there is a good database of priority habitats. The guidelines also include operational monitoring. The duration and scope of monitoring depends on existing data and size of project. The advisory committee (see guidelines for more information) is responsible for reviewing results of data and giving recommendations to permitting agency. The guidelines also encourage studies to look at indirect impacts

Section 2:
Section two of the guidelines focus on wind project habitat mitigation. Mitigation is required for direct loss from footprint, permanent and temporary habitat lost. The guidelines encourage development on crop or already disturbed lands. The mitigation must replace like, in kind or better land in habitat area. For different land qualities different rates of mitigation are required. This was negotiated with the state and industry as the state viewed tradeoff between money and time on studies that they got land, money into good habitat and long term protection

Section 3:
Section three creates a mitigation banking program. Cash payments can be made on a per acre basis. This would allow WADFW to acquire and monitor high value habitat and then use the mitigation funds to fulfill maintenance requirements. The industry helped lobby for initial acquisition of lands and the money was allocated by the senate, but the governor vetoed it. They will try to pass it again this year.

Comments/Questions:
How will these guidelines coordinate with the federal guidance? How can states communicate with FWS? Participants suggested that maybe the NWCC could help.

The National Audubon is currently involved in a project to conserve bird populations. They are working to determine "important bird areas". The effort is being led by Bird Life International. The goal is to gather quantitative information on areas most important for birds. Currently 40 states are being reviewed in a public open process. Sites are nominated and then there is a peer review process at state level. It will be an ongoing long term process. The outcome will determine on which sites to focus preservation efforts. Some states have completed initial inventories, but comprehensive information in needed. Key variables include vulnerability, threats, species bottlenecks.

Attachment 3

Partial List of Literature Reviewed, Portions of Which Used to Develop the Fish & Wildlife Service's Voluntary Wind Turbine Guidance

Prepared by
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Chair, [FWS] Wind Turbine Siting Working Group

American Wind Energy Association. 1995. Windpower '95 Annual Conference and Exhibition of the AWEA, March 26-30, 1995, Proceedings, Washington, DC. AWEA, U.S. Dept. Energy, National Renewable Energy Laboratory, and Edison Electric Inst. 611 pp.

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Plus numerous other sources referenced in Literature Cited Section of Guidance.

Attachment 4
Letter from Director to USFWS regional offices regarding implementation of the guidelines.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

APR 2 6 2004

FWS/DHRC/BAPHC

Memorandum

To: Regional Directors, Regions 1-7

From: Director Steve Williams

Subject: Implementation of Service Voluntary Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines

On July 10, 2003, the U.S. Fish and Wildlife Service provided to the Regions and the general public our voluntary Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines. The Interim Guidelines are to be evaluated over a 2-year period, and then modified as necessary based on their performance in the field and on the latest scientific and technical discoveries developed in coordination with industry, States, academic researchers, and other Federal agencies. A Notice of Availability and request for comments was published in the Federal Register simultaneously with the release of the guidance to Service personnel. By memo to the Regions dated May 13, 2003, and attached to the guidance document released on July 10, 2003, we provided general guidance for implementation of the Interim Guidelines by our field personnel.

Comments received during the first 8 months of the 2-year comment period indicate that further explanation is needed concerning the voluntary and flexible nature of the Interim Guidelines. The purpose of this memorandum is to provide more detailed direction to Service personnel on how the Guidelines should be applied.

Please ensure that all field personnel involved in review of wind energy development proposals receive copies of this memorandum. For further information or to provide comments on the Interim Guidelines, contact Dr. Benjamin N. Tuggle, Chief, Division of Habitat and Resource Conservation, at (703)358-2161, or Brian Millsap, Chief, Division of Migratory Bird Management, at (703)358-1714.

Instructions for Implementation of Service Voluntary Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines

General

The guidance is intended to be general in nature and applied with local interpretation based on local conditions. This is necessary because the guidance is national in scope, and because of the great variance in geography and habitats in which wind energy developments may be proposed as well as the variable nature of potential impacts to trust resources. The Interim Guidelines are not to be construed as rigid requirements, which are applicable to every situation, nor should they be read literally. Recommendations made under the Interim Guidelines should be based on locally applicable scientific data, local knowledge and expertise, technological feasibility, and a reasonable interpretation of the available information. The teams of professionals recommended for pre-development site evaluations should make recommendations on site selection, pre-development data collection, site design, and post-construction monitoring based on local conditions, using the Interim Guidelines as a general guide. Field personnel providing recommendations on projects that are at other stages of development should do likewise. Service personnel should be able to provide a rationale for their recommendations. Likewise, project proponents should be expected to provide supporting documentation if Service recommendations are deemed infeasible for technological reasons.

Site Evaluation and Ranking

The guidance recommends that all potential wind energy development sites within a geographic area be evaluated and ranked prior to selecting a site for development, using the site evaluation process provided. This recommendation does not apply where a site was leased for development prior to the availability of the Interim Guidelines. Potential wind energy development sites have a number of pre-requisites, including sufficient wind, availability through lease, and access to the transmission grid. Evaluation of sites, which do not possess these attributes, should not be recommended. An exception would be in situations where the evaluation of a single such site is needed to provide a reference site for use in the ranking system, and no site with true potential for development is adequate. The size of the geographic area in which all potential development sites should be evaluated will vary depending on the above attributes, the continuity of similar habitat, and the wildlife species potentially impacted. It may be an entire State, a small portion of a State, or a few thousand acres. In the case of small projects where only a single site is available, such as some Native Alaskan bush communities, evaluation and ranking of multiple sites would not be applicable.

Release of Site Evaluation Data Under the Freedom of Information Act (FOIA)

The wind energy industry has expressed concern regarding the possible release of information on potential development sites under a FOIA request, citing the intense competition within the industry for developable locations. Service personnel should make every effort to protect the companies they work with from any sort of competitive harm. Customarily, government agencies protect proprietary information that is voluntarily provided by industry and identified by them as having the potential to cause competitive harm if released, though the Service is not authorized to make any guarantees under FOIA. Such information may be protected under exemption 4 of FOIA (confidential business information). When working with the industry, Service staff should request that companies identify any and all such information up front, and provide a brief explanation as to why the information is deemed 'confidential business information' and what competitive harm could ensue through release. If an employee receives a request (whether FOIA or any other type of request) for such information, they should alert the appropriate FOIA staff and the Office of the Solicitor prior to responding. Though release of this type of information is unlikely under FOIA, companies may also file a reverse FOIA suit to prevent any such release. Service personnel should note that they may be subjected to litigation through inappropriate release of information identified as 'confidential business information'.

Pre- and Post-Construction Studies

Where information is considered insufficient to make informed decisions about development of a site, recommendations for collection of additional information should be based on the local situation. As an example, the guidance recommends 3 years of data as a standard for determining the presence and/or magnitude of bird and bat migration in areas of high seasonal concentrations. This recommendation is not intended to be a strict requirement for all areas, or if a shorter collection period can be expected to yield sufficient data. Likewise, recommending the use of acoustic, radar, and infrared detection equipment as mentioned in the guidance is not a strict requirement at all locations and under all conditions. However, where risk is considered sufficiently high, and available data and/or local knowledge indicate that weather variations, changing flight paths, or variable timing of migration warrant it, 3 years of data collection using the most appropriate tools available should remain the standard. The guidance states that the intended time frame for post-construction monitoring (recommended at all sites) is not expected to exceed 3 years. This does not mean that 3 years of monitoring should be recommended at all sites. A single year of monitoring through all seasons may indicate that 1 year is sufficient, or that additional monitoring is needed. Again, professional evaluation of the local situation is required.

Small Wind Energy Developments Funded Through the Farm Bill

The U.S. Department of Agriculture is currently providing grants for development of small, single-owner or cooperative wind energy facilities through Section 9006 of the Farm Security and Rural Investment Act of 2002. The purpose of this program is to help agricultural producers and rural small businesses purchase renewable energy systems and make energy efficiency improvements. Most of the proposed wind power facilities funded under this program are for single or a few turbines with limited siting options. Being federally funded, they must also undergo a National Environmental Policy Act evaluation. Recommendations on siting and studies for such facilities under the Interim Guidelines should not suggest team-based evaluation of multiple potential development sites (the ranking system), pre-development studies beyond a basic site evaluation for wetlands, migratory birds and bats, endangered/threatened species, etc., or post-development monitoring programs. Recommendations on site development and turbine design and operation should be appropriate to the location and size of the proposed facility. Any large-scale, multi-turbine facilities proposed under section 9006 should be evaluated in the same manner as those proposed by wind energy companies.

Summary

Development of wind energy is a priority of the Secretary of the Interior. When properly sited and designed, wind energy development has the potential to reduce the loss of trust resources and their habitats by replacing other, more disruptive forms of energy development. The intent of the Service is to have professional biologists and professional wind engineers working together at the local level to develop this energy source in a manner that protects trust resources. This should be accomplished through flexible application of the voluntary Interim Guidelines based on local conditions, local knowledge, locally applicable scientific data, and technological feasibility. Please make every effort to accommodate requests for assistance in evaluating potential development sites and providing recommendations for site design and operation within the constraints of your budget and other commitments. Any problems encountered or recommendations for improvement should be noted and provided to the Regional and Washington offices for use in developing final guidelines at the conclusion of the 2-year public comment period in July 2005.

Evaluation of wind energy development is a new challenge in most areas of the country, and the Interim Guidelines are a work in progress. We are in the process of planning a series of multi-stakeholder workshops on the use of the Interim Guidelines in the coming months. The workshop conducted in Region 5 in September of 2003 was considered a great success. We encourage all Regions to provide the opportunity for their field personnel to participate when a workshop is held in your area.