



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
3425 Miriam Avenue  
Bismarck, North Dakota 58501

JAN 28 2009



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PUBLIC SERVICE COMMISSION

Mr. John Schulz, CWB  
Vice President, Senior Biologist  
Western Plains Consulting, Inc.  
PO Box 1401  
Bismarck, North Dakota 58502-1401

Dear Mr. Schulz:

This is in response to your December 5, 2008, letter requesting whooping crane sighting information for a proposed wind farm near Strasburg, in Emmons County. Representatives from Just-Wind, LLC and the U.S. Fish and Wildlife Service (Service) also discussed this proposal at a December 4, 2008, meeting. We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

The U.S. Fish and Wildlife Service (Service) holds certain resources in trust and manages them for the benefit of the American people. These resources include migratory birds, inter-jurisdictional fish, federally-listed threatened and endangered species of plants and animals and their habitats, and units of the National Wildlife Refuge system. One goal of Service policy is that conservation of fish and wildlife resources receive equal consideration with other features of resource development, and that conservation actions are coordinated with those other forms of development. Another goal is to conserve, protect, and enhance fish and wildlife and their habitats, and to facilitate the balanced development of the Nation's natural resources. When planning an activity, project proponents should give careful consideration to potential impacts to these trust resources and compliance with the laws mentioned above. Additional information is provided below.

There are some misunderstandings of our policy expressed in your letter, which we wish to clarify. It is not the case that whooping crane sighting information cannot be released to Just Wind. This is public information available to anyone who requests it. However, for the reasons detailed below, the Service does not believe that the information you requested will be particularly useful, i.e. confirmed whooping crane observations within the proposed Emmons County wind farm boundary and 5 miles from the perimeter of that boundary (enclosure 1). Information provided in the December 4<sup>th</sup> meeting indicates Just Wind is planning on basing their project siting decisions, in part, on individual whooping

crane sightings. As we have pointed out, whooping crane sightings, compiled over time, are only an indication of where whooping cranes may stop over during migration. Although the location of the migration corridor has been defined based on sighting data, it is very important to interpret this data set correctly. (Please see (enclosure 2) *Required Reading for Users of the Whooping Crane Tracking Project Database* for additional information.) The proposed Emmons County project is located entirely within the primary whooping crane migration corridor, with suitable stopover habitat available in both areas. Therefore, wind farm and turbine placement based on the absence of specific sighting locations within the footprint or nearby cannot be construed as indicative of avoidance of adverse effects to the whooping crane. The Service does not believe that a conclusion that whooping cranes would not be adversely affected is appropriate for this proposed project site. Further information on this point and other Federally-listed species information is provided below.

### **Threatened and Endangered Species**

A list of federally threatened and endangered species that may occur within the proposed project's area of influence is enclosed (enclosure 3). This list fulfills requirements of the Fish and Wildlife Service under the ESA.

Pursuant to section 9 of the ESA, it is unlawful for any person to take any federally-listed threatened or endangered fish or wildlife species, without special exemption. The ESA defines take as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or destruction that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). If whooping cranes avoid turbines, construction of wind farms could deny stopover habitat from the species, resulting in harm from habitat modification; such harm could result in take (defined in 50 CFR 17.3).

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species or critical habitat. If the Federal agency, or its designated agent, determines the action "is likely to adversely affect" listed species or modify critical habitat, the responsible Federal agency shall request formal section 7 consultation with this office. If the evaluation shows a "no effect" determination on listed species or critical habitat, further consultation is not necessary. If a private entity receives Federal funding for a construction project, or if any Federal permit or license is required, the Federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation.

Section 10(a)(1)(B) of the ESA allows non-Federal parties planning activities that have no Federal nexus, but which could result in the incidental taking of listed animals, to apply for an incidental take permit. The application must include a habitat conservation plan (HCP) laying out the proposed actions, determining the effects of those actions on affected federally-listed fish and wildlife species and their habitats (often including

proposed or candidate species), and defining measures to minimize and mitigate adverse effects.

If a project has no Federal nexus to trigger section 7 consultation under the ESA, but is in the whooping crane migration corridor with whooping crane stopover habitat located on or near the project, then the company still must ensure that its actions do not result in a violation of section 9 of the ESA. Incidental take is defined by the ESA as take that is “incidental to, and not the purpose of, the carrying out of otherwise lawful activity.” The “incidental take permit” process was established under Section 10(a)(1)(B) of the ESA.

Section 10(a)(2)(A) of the ESA requires an applicant for an incidental take permit to submit an HCP that specifies, among other things, the impacts that are likely to result from the taking and the measures the permit applicant will undertake to minimize and mitigate such impacts. Until such time as a project proponent whose activities could result in take of a threatened or endangered species produces an HCP, submits that HCP and application for a Section 10 permit, and receives a permit to take, the responsible individuals or entity would be liable under the enforcement provisions of the ESA for any unauthorized take of a whooping crane or other federally-listed species.

The Aransas Wood Buffalo Population (AWBP) of whooping cranes is the only self-sustaining migratory population of whooping cranes remaining in the wild. These birds breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations.

Endangered whooping cranes have been documented using stopover habitat in the vicinity of this proposed project. The proposed project is located within that portion of the whooping crane migration corridor that includes 95% of all confirmed whooping crane sightings in North Dakota (enclosure 4). The presence of suitable roosting and feeding habitat for whooping cranes, and location within the whooping crane migration corridor, document the potential for whooping crane presence in the proposed project area. A wind energy project in this wind resource area has the potential to affect whooping cranes during their annual spring and fall migration through North Dakota. Potential effects may be direct (e.g. collision mortality) or indirect (e.g. avoidance of the site resulting in cranes seeking alternate habitat). The interactions of whooping cranes with wind turbines and wind farms are currently not fully known, although it is expected that these large birds with relatively low maneuverability are susceptible to mortality via collisions with turbines. Currently, collisions with power lines are the greatest known source of mortality for fledged whooping cranes, and have accounted for the death or serious injury of at least 46 whooping cranes since 1956.

Most whooping cranes complete their migration without being reported. Based on the five migrations between Spring 2005 and Spring 2007, reports were obtained for an estimated 4% of all stopovers. Thus, the accumulated data set represents only a small fraction of the actual stopovers and is thus vulnerable to the biases described above and

to potential misinterpretation. Despite these limitations, the whooping crane migration database represents the best information currently available regarding whooping crane distribution during migration.

A low number or even lack of verified sightings at a particular location or county should not be construed as demonstration of a lack of use of that location by whooping cranes. Because so few migration stopovers are documented, one known whooping crane stopover in a county or at a particular location indicates the presence of suitable habitat, and may represent substantial use of the area by whooping cranes. It is important to understand that the lack of data from a particular location does not mean that whooping cranes do not ever stop there. It just means they have never been reported from that area by a qualified observer. Known stopovers in locations to the north and south of a given location also provide a strong indication that the site is within the whooping crane migration corridor, even if no sightings have been documented for that location. In addition, use of a location in the migration corridor by sandhill cranes can be a strong indicator of the presence of suitable habitat and potential use of the area by whooping cranes. Whooping cranes will often select a stopover site where sandhill cranes are already present.

Although most issues concerning wildlife and wind energy development initially focused on the direct effects of mortality from wildlife collisions with turbines and their associated infrastructure (power lines, guy wires, substation buildings, etc.), such collisions are no longer the sole focus of concern. The primary indirect effect of concern is complete avoidance by whooping cranes of stopover habitat. Also of concern are indirect effects caused by habitat fragmentation, loss of stopover habitat, and disruption of life cycles due to behavioral tendencies of many wildlife species to avoid vertical structures, including wind turbines.

Although the reaction of whooping cranes to wind turbines on the landscape is not fully known, the primary indirect effect of wind farm development may be that whooping cranes avoid wind turbines and do not use otherwise suitable stopover habitat located in wind farm areas.

Thus, wind energy development could cause whooping cranes in the AWBP to avoid otherwise suitable habitat, forcing the birds to search for alternate stopover areas. To measure the amount of habitat potentially removed from use by whooping cranes, it is recommended that wind energy developers calculate how many wetland acres are within the footprint of habitat overlain with turbines.

Removal of stopover habitat could result in increased mortality to the species if cranes are forced to use suboptimal habitat or fly farther to find stopover habitat away from a wind farm. This would lengthen the migration and take extra energy. Flying greater distances under low-light conditions could expose the cranes to additional dangers (hunting, power line collisions, etc.) as they search for stopover habitat. The cranes may be forced to use stopover habitat that is less suitable and thus be more subject to predation, disease, or human disturbance, all of which could increase mortality.

Loss of migration stopover habitat is a growing concern regarding the AWBP of whooping cranes. If significant loss in quality or quantity of stopover habitats were to occur this could negatively affect the physical condition of migrating birds, ultimately impacting their likelihood of surviving migration, reproductive rates on the breeding grounds, and overwinter survival.

### **Migratory Birds**

Adequate consideration for avian and other wildlife resources early in the site evaluation process can help to minimize impacts and facilitate project review. Although current wind turbine technology and proper siting can help to minimize the incidence of avian and bat deaths due to blade, aerial line, and tower strikes, the potential for direct mortality of some migratory birds will remain. Wind power developers, in concert with the Service, can help to ensure that projects proceed with as little impact to migratory birds as possible. This can be accomplished by gathering information on avian resources as they relate to project siting and by implementing measures to minimize impacts to migratory birds from the construction and operation of the wind facility. The Service's Interim Wind Turbine Siting Guidelines are enclosed to assist in project planning (enclosure 5). We encourage the project proponents to conduct a Potential Impact Index (PII) analysis on several potential sites within wind resource areas to assist in the selection of a wind power site that minimizes the potential to impact migratory birds. Please inform this office whether or not you plan to use the Service's interim guidelines in selecting your site and if not, whether you intend to use a different method to assess avian and other wildlife resources.

The Service believes that the results of any surveys for birds, bats, and other wildlife should inform the siting, layout, and operation of the project, as well as the formulation of an Avian and Bat Protection Plan. Thus we encourage you to coordinate any surveys you plan to conduct with the Service, and discuss with us how you intend to utilize the results prior to conducting your surveys.

The Service has coordinated with the Avian Power Line Interaction Committee (APLIC) to develop guidelines to assist companies in formulating Avian Protection Plans (APP). These plans are utility-specific and designed to reduce operational risks that result from avian interactions with electric utility facilities, but we suggest they may be adapted to wind energy facilities as well. We encourage the project developer of the proposed wind energy facility to investigate the formulation of an APP. The guidelines can be accessed from APLIC's website at <http://www.aplic.org/>.

To minimize the electrocution hazard to birds, the Service, with support from the Rural Utilities Service, recommends that new or updated overhead power lines be constructed in accordance with the current guidelines for preventing raptor electrocutions. The recommended guidelines can be found in "2006 Suggested Practices for Avian Protection on Power Lines". To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, the Service recommends all new power lines that cross or run adjacent to rivers or large wetlands be modified according to "Mitigating Bird

Collisions with Power Lines: The State of the Art in 1994". Both publications can be obtained by writing or calling the Edison Electric Institute, P.O. Box 266, Waldorf Maryland 20604-0266, (1-800-334-5453) or visiting their website at [www.eei.org](http://www.eei.org).

The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the Act has no provision for allowing unauthorized take, the Service realizes that some birds may be killed by wind power towers, turbines, or power lines, even if all reasonable measures to protect them are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to minimize their impacts on migratory birds, and by encouraging others to enact such programs. It is not possible to absolve individuals, companies, or agencies from liability even if they implement avian mortality avoidance or similar conservation measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without regard for their actions or without following recommendations such as this to avoid take.

To avoid impacts to migratory birds or other wildlife during the breeding season (February 1 to July 15), schedule construction for late summer or fall/early winter. If work is proposed to take place during the breeding season or at any other time which may result in the take of migratory birds or active nests, the Service recommends that the project proponent arrange to have a qualified biologist conduct a field survey of the affected habitats to determine the absence or presence of nesting migratory birds. If nesting migratory birds are found, we request you contact this office, suspend construction, or take other measures, such as maintaining adequate buffers, to protect the birds until the young have fledged. The Service further recommends that field surveys for nesting birds, along with information regarding the qualification of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site, be thoroughly documented and that such documentation be shared with the Service and maintained on file by the project proponent at least until such time as construction on the proposed project has been completed.

### **Fish and Wildlife Service Property Interests**

The Service administers Waterfowl Production Areas owned in fee title as well as wetland and grassland easements throughout North Dakota. A review of Service realty records indicates Service property interests are located in the planning area. The Service has an ongoing easement acquisition program and we recommend that for Emmons County, contact Paul VanNingen, Wildlife Refuge Manager, Long Lake National Wildlife Refuge, 12000 353<sup>rd</sup> Street SE, Moffit, North Dakota 58560-9740, (701-387-4397), for more specific information relative to Service easements and up-to-date realty records.

Following are some suggestions and explanations of the various land interests the Service is responsible for in the proposed project area. Wetland easements are legal agreements with private landowners that permanently protect wetland basins from being drained, burned, leveled, or filled. Grassland easements are legal agreements with landowners that permanently protect grassland vegetation, primarily native prairie, from being destroyed or developed. These easements prevent these grasslands from being converted to cropland. Mowing, haying, and grass seed harvesting must be delayed until after July 15 each year.

The primary responsibility in protecting these easements is to review all proposed uses to ensure that the requests are compatible with Service easement regulations and various laws and policies. Therefore, these comments and suggestions are made in an attempt to accomplish three goals: 1) avoid impacts to Service grassland and wetland easements in the project area as much as possible; 2) if unavoidable, ensure that any proposed turbine and associated infrastructure impacts (roads, buried collection lines, transmission lines, sub-stations, etc.) on any Service easement areas are kept to an absolute minimum; and 3) investigate all potential alternatives to eliminate or reduce impacts to easement areas to protect the integrity of the easement. With these goals in mind, the Service offers the following comments:

- **Grassland Easements:** The Service manages a number of grassland easements in the proposed project area. Without a map showing the proposed turbine and road locations, it is not possible at this time to identify specific concerns with turbines and roads. Building turbines on grassland easements will require a discussion about a variety of administrative procedures that will need to be completed to comply with various laws, policies and regulations (NEPA documentation, compatibility determinations, restoration plans, decommissioning plans, replacement of impacted areas, a possible reimbursable agreement in support of Service expenditures for review, etc.). Refuge personnel will be available to meet in person to cover all these easement considerations in more detail once a more complete draft plan of the project layout is available. However, as with all other resource considerations, we urge you to discuss your plans with us prior to final site selection.
- **Wetland Easements:** The Service manages a number of wetland easements in the proposed project area. Without a map showing the proposed turbine and road locations, it is not possible at this time to identify specific concerns with turbines and roads. The National Wetlands Inventory (NWI) identifies many of the area's wetlands; however, many of the small, shallow temporary wetland basins may not be recognized on NWI photography. You should make all reasonable efforts to avoid facility placement and disturbance to wetland easements. If your plans indicate a proposal to locate project facilities on Service wetland easements, the Service will review aerial photography along with field inspections to review construction stakes to make sure all wetland basins are avoided. In addition, it is important to make sure that access roads do not alter individual wetland basins and their individual watersheds.

- NEPA Review: As mentioned, if Service lands are proposed to be impacted, the Service will be required to conduct an analysis of impacts and examine alternatives, pursuant to NEPA.

### **High Value Habitat Avoidance**

The proposed project area is located in the Missouri Coteau region of North Dakota and includes areas of native mixed-grass prairie. Since the 1800s, North Dakota has lost approximately 75 percent of its native grasslands, primarily due to crop production. The Service recommends avoiding construction or disturbance on native prairie areas.

Native prairie has significant natural resource values including:

- Provides habitat for a number of migratory and resident grassland birds whose populations are declining.
- Provides nesting habitat for millions of waterfowl.
- Contains 200-300 plant species, which provide genetic diversity important to agriculture and medicine.
- Provides habitat for thousands of insects including the Dakota skipper, a candidate species for listing under the ESA, and other butterflies (Ex: Regal fritillary, Tawny crescent).
- Crucial for soil and water conservation.
- Provides recreational opportunities (hunting, bird watching/wildlife observation, hiking).
- Living laboratories for scientific research.

Our review of NWI maps indicates that wetland areas are located within the project area. NWI data can be accessed directly by visiting their website at ([wetlands.fws.gov](http://wetlands.fws.gov)). Section 404 of the Clean Water Act regulates placement of fill materials in certain wetlands. A Corps of Engineers' 404 permit may be required if fill material will be placed in aquatic sites including wetlands. Contact Mr. Dan Cimarosti, Regulatory Office, Corps of Engineers, 1513 South 12th Street, Bismarck, North Dakota 58504 (701-255-0015), to determine their permit requirements. If a 404 permit is required, the Service will provide recommendations on this project to the Corps.

Other high value wildlife habitat types in North Dakota include wooded draws and riparian forests. We recommend that you avoid construction of wind towers and appurtenant facilities in the above habitat types whenever possible. Construction activities should be conducted in a manner that will minimize impacts to the wildlife and the existing habitat in the project area. To help avoid impacts, we recommend that you:

- Avoid construction in native prairie, if possible, and reseed disturbed native prairie with a comparable native grass/forb seed mixture. Obtain seed stock from nurseries within 250 miles of the project area to insure the particular cultivars are well adapted to the local climate.

- Minimize grassland disturbance by using fewer, larger turbines and limiting new road construction.
- Use underground transmission lines between turbines, as well as to the primary substation. If construction of overhead transmission lines are unavoidable, install and maintain appropriate visual line marking devices to reduce the potential for avian collision mortality.
- Design meteorological towers to be self standing (no guywires). If towers must be guyed, install and maintain appropriate visual line marking devices to reduce the potential for avian collision mortality.
- Locate appurtenant facilities to avoid placement of fill in wetlands along the route.
- Install and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams near the project area.
- Replace unavoidable wetland losses with functionally equivalent wetlands.

Wind developers, including power transmission companies, are encouraged to avoid impacts to prairie and other native habitats to the maximum extent practicable. Avoidance of impacts can be most effectively achieved by taking a landscape-scale view, beginning with the process of prospecting for suitable sites for wind power development. Companies should assess not only those factors that indicate favorable conditions for development, such as a consistent wind resource, access to transmission, willing landowners, available financing, etc., but also anticipated impacts to wildlife and their habitats. Equal consideration should be accorded to wildlife resource conservation as to other features of development. When considering a project in a particular wind resource area, companies should use all available tools to ensure they have taken all practicable steps to avoid impacts to native habitats. This can be accomplished by utilizing GIS products depicting significant areas of contiguous prairie to site development in areas that are already impacted or fragmented. This analysis and potential site comparison should be accomplished prior to making any significant financial commitments, including entering into lease agreements with landowners.

### **Research, Monitoring, and Assessment**

We encourage project proponents to conduct collision monitoring studies designed to determine the effect of several factors, such as site selection, turbine designs, the layout of wind plants, wind plant operations, habitat alteration, and changes in available perching and nesting sites, on bird deaths. Annual reports outlining the results of these monitoring studies should be submitted to this office. The Avian Subcommittee of the National Wind Coordinating Committee (NWCC) has developed a guidance document to assist wind energy developers in designing studies that will produce credible and comparable results of avian interaction with wind power plants. The NWCC document, "Studying Wind Energy/Bird Interactions: A Guidance Document. Metrics and methods for determining or monitoring potential impacts on birds at existing and proposed wind energy sites," can be obtained by contacting the National Wind Coordination Committee, c/o RESOLVE, 1255 23<sup>rd</sup> Street, Suite 275, Washington, D.C. 20037, or by visiting their website at ([www.nationalwind.org](http://www.nationalwind.org)).

Given the Service requirements and recommendations above, as well as possible unforeseen issues that may arise, we encourage you to build sufficient planning time for coordination with the Service into your project timeline. Thank you for the opportunity to comment. If you require further information as project planning proceeds, please contact Heidi Kuska of my staff at (701) 250-4481, or at the letterhead address.

Sincerely,



Jeffrey K. Towner  
Field Supervisor  
North Dakota Field Office

Enclosures (5)

cc: Long Lake. NWR  
Regulatory Office, Army Corps of Engineers, Bismarck  
(Attn: D. Cimarosti)  
ND Public Service Commission, Bismarck  
Director, ND Game & Fish Department, Bismarck  
(Attn: M. McKenna)