

# **APPENDIX C**



# Minnesota Department of Natural Resources

Division of Ecological Resources, Box 25

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St. Paul, Minnesota 55155-4025

Phone: (651) 259-5109 Fax: (651) 296-1811 E-mail: [lisa.joyal@dnr.state.mn.us](mailto:lisa.joyal@dnr.state.mn.us)

July 24, 2009

**Correspondence # ERDB 20090893**

Terry Carlson  
Prairie Wind Energy LLC  
PO Box 33  
Parkers Prairie, MN 56361

RE: Natural Heritage information in the vicinity of the proposed Prairie Wind LWECS, Otter Tail County

Township (N)	Range (W)	Section(s)
131	37	2-11, 14-21
132	37	16-21, 26-35
131	38	1, 12, 13, 24
132	38	25 & 36

Dear Mr. Carlson,

As requested, the Minnesota Natural Heritage Information System has been queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project. Based on this query, a rare bird has been documented in the search area. Please address the following issues in the Public Utilities Commission (PUC) Site Permit Application for this project:

- The red-shouldered hawk (*Buteo lineatus*), a state-listed species of special concern, has been documented in nearby woodlands (for details, see the enclosed database reports; please visit the Rare Species Guide at <http://www.dnr.state.mn.us/rsg/index.html> for more information on the biology, habitat use, and conservation measures of this species).
- The Minnesota County Biological Survey (MCBS) has identified several Sites of Biodiversity Significance within and adjacent to the project boundary. Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Factors taken into account during the ranking process include the number of rare species documented within the site, the quality of the native plant communities in the site, the size of the site, and the context of the site within the landscape (please see the enclosed MCBS guidelines for further information). These particular Sites include a Site of Moderate Biodiversity Significance in the NW ¼ of T132N R37W Section 26 and two Sites rated Below in T132N R37W Sections 31 & 35 and T132N R38W Section 36 (see enclosed map; GIS shapefiles of MCBS Sites of Biodiversity Significance and MCBS Native Plant Communities can be downloaded from the DNR Data Deli at <http://deli.dnr.state.mn.us>). Although the Sites ranked as Below do not meet the minimum biodiversity threshold for statewide significance, they may have conservation value at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat. We recommend that the project be designed to avoid impacts to these ecologically significant areas (as currently proposed, the project does avoid the MCBS Sites). Indirect impacts from surface runoff or the spread of invasive species should also be considered during project design and implementation.
- Several Wildlife Management Areas (WMAs) are located in the vicinity of the project area (please see the enclosed map; a GIS shapefile of the State Wildlife Management Area Boundaries can be downloaded from the DNR Data Deli at <http://deli.dnr.state.mn.us>). The boundary of the proposed project should be modified to explicitly exclude all WMAs. Please contact the DNR Regional Environmental Assessment Ecologist, Nathan Kestner at 218-308-2672, for recommended setbacks from public lands.

- There is a USFWS Waterfowl Production Area within the project boundary (please see the enclosed map). If you have not done so already, I encourage you to contact the USFWS Twin Cities Field Office at 612-725-3548.
- Given that the proposed project is within an important complex of ecologically significant areas and state conservation lands, the potential for a state-listed hawk to use the surrounding area, and the potential for wind turbines to cause avian mortality, we strongly encourage pre- and post-construction avian monitoring. Any cumulative impact assessment should also address the issue of avian mortality.
- Further guidance on wind farm siting can be found at [http://www.fws.gov/midwest/Eco\\_Serv/wind/index.htm](http://www.fws.gov/midwest/Eco_Serv/wind/index.htm).

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area.

The enclosed results include an Index Report and a Detailed Report of records in the Rare Features Database, the main database of the NHIS. To control the release of specific location information, which might result in the destruction of a rare feature, both reports are copyrighted.

The Index Report provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an environmental review document (e.g., EAW or EIS), municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index report for any other purpose, please contact me to request written permission. **The Detailed Report is for your personal use only as it may include specific location information that is considered nonpublic data under Minnesota Statutes, section 84.0872, subd. 2. If you wish to reprint or publish the Detailed Report for any purpose, please contact me to request written permission.**

This letter does not constitute review or approval by the Department of Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. Additional rare features for which we have no data may be present in the project area, or there may be other natural resource concerns associated with the proposed project. For these concerns, please contact your DNR Regional Environmental Assessment Ecologist, Nathan Kestner at 218-308-2672. Please be aware that additional site assessments or review may be required.

Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,



Lisa Joyal  
Endangered Species Environmental Review Coordinator

enc. Rare Features Database: Index Report  
Rare Features Database: Detail Report  
Rare Features Database Reports: An Explanation of Fields  
Map

cc: Nathan Kestner, DNR  
Randall Doneen, DNR  
Nick Rowse, USFWS  
Rich Davis, USFWS

Printed June 2009  
Data valid for one year

Minnesota Natural Heritage Information System  
Index Report of records within 1 mile radius of:  
ERDB #20090893 - Prairie Wind Energy  
Multiple TRS  
Otter Tail County

Rare Features Database:

Element Name and Occurrence Number	Federal Status	MN Status	State Rank	Global Rank	Last Observed Date	EO ID #
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Vertebrate Animal

<u>Buteo lineatus</u> (Red-shouldered Hawk) #462 T132N R38W S34, T132N R38W S35 ; Otter Tail County		SPC	S3B,SNRN	G5	2004-04-28	32164
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Records Printed = 1

Minnesota's endangered species law (Minnesota Statutes, section 84.0895) and associated rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the taking of threatened or endangered species without a permit. For plants, taking includes digging or destroying. For animals, taking includes pursuing, capturing, or killing.



## Minnesota Department of Natural Resources

Division of Ecological Resources – Reg. 1 (NW)

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July 28, 2009

Terry Carlson – President  
Prairie Wind Energy  
P.O. Box 33  
Parkers Prairie, MN 56361  
218-338-4875 office  
218-639-3924 cell  
[tjabcarl@midwestinfo.net](mailto:tjabcarl@midwestinfo.net)

RE: Prairie Wind - LWECS  
Preliminary Review  
Ottertail County, MN

Dear Mr. Carlson,

The Minnesota Department of Natural Resources (DNR) has received information concerning the above referenced wind project located in Otter Tail County, MN. The DNR is providing the following comments as a mechanism to collaboratively work together to identify potential natural resource issues that should be considered during project development.

### **Public Lands**

The Almora, Folden Woods Marsh, Wrightstown, Lake Sixteen, Eastern and Elmo Wildlife Management Areas (WMA's) are adjacent or near to the project area. The DNR recommends that no direct impacts occur to these public recreational lands from tower construction, transmission lines, or road networks associated with the project. In addition, a buffer should be established around all WMA's that is a minimum of five times the rotor blade diameter. This buffer may be re-evaluated as the project progresses and as more information on sensitive resources is developed. State Wildlife Management Area boundaries are available for download from the DNR Data Deli (<http://deli.dnr.state.mn.us/>).

The project area contains tracts of Waterfowl Production Areas (WPA's) that are managed by the U.S. Fish and Wildlife Service (USFWS). Wind turbines 4 & 5 (WT4 & WT5) are very close to one or more WPA's. In their current proposed locations, they have the potential to intercept birds flying between wetlands and public waters. These turbines should be sited elsewhere. By following our recommended setbacks from public waters and wetlands (discussed below), it may

be possible to avoid and/or minimize impacts. We urge you to contact the USFWS Twin Cities Field Office at 612-725-3548 to discuss potential impacts to WPA's. In addition, you should also inquire about any USFWS conservation easements that may occur in the project area.

The project area contains numerous areas enrolled in both the Conservation Reserve Program (CRP) and Reinvest in Minnesota (RIM) programs that have the potential to be affected by this project. The Farm Service Agency located in the county(s) where the project is occurring should be contacted

(<http://www.fsa.usda.gov/FSA/stateoffapp?mystate=mn&area=home&subject=landing&topic=landing>) in order to coordinate potential issues involving these properties.

### **Natural Heritage & Wildlife Concerns**

The proposed project lies within the Hardwood Hills Subsection (222Ma) of the Eastern Broadleaf Forest Province (222). A DNR publication titled, *Tomorrow's Habitat for the Wild and Rare: An Action Plan for Minnesota Wildlife (2006)* provides conservation actions and priorities for Species of Greatest Conservation Need (SGCN) and their key habitats at the subsection level. A profile of the Hardwood Hills subsection (which includes conservation actions and priorities) is available at <http://www.dnr.state.mn.us/ecs/index.html>

Within this ecological subsection, there is significant biodiversity with wetlands, lakes, prairie, grasslands and woodland habitats present. Some or all of these habitats may also be present within the project area. Likewise, the Minnesota County Biological Survey (MCBS) has identified several "Sites of Biodiversity Significance" within and adjacent to the proposed project area. "Sites of Biodiversity Significance" are areas with varying levels of native biodiversity that may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations. The proposed project area contains area ranked as "Moderate" along with areas that fall "Below" the biodiversity threshold for statewide significance. The enclosed document entitled "Appendix 4. Guidelines for Minnesota County Biological Survey (MCBS) Statewide Biodiversity Significance Rank" explains in detail these ranking categories. We recommend that you consider project alternatives that would avoid direct or indirect impacts to these ecologically significant areas.

From the preliminary review of the project map, it appears that that proposer has done a good job at avoiding areas of biodiversity significance.

Past occurrences of rare features as tracked by the Minnesota Natural Heritage Information System (NHIS) occur within the general area of the project. The NHIS tracks important information on the distribution of rare natural plants, animals and biological communities throughout Minnesota. The Natural Heritage Program staff will provide information about specific rare features, locations to avoid, and surveys that may be required. Please continue to coordinate Natural Heritage issues with Lisa Joyal (651-259-5109).

The US Fish and Wildlife Service has developed a document titled, "Interim Guidance on Avoidance and Minimizing Wildlife Impacts from Wind Turbines" which the DNR agrees with.

The guidelines and additional information are available at:  
[http://www.fws.gov/habitatconservation/Service Interim Guidelines. PDF](http://www.fws.gov/habitatconservation/Service%20Interim%20Guidelines.PDF)

Potential conflicts with wildlife corridors and scenic views may arise. These resources are less quantifiable but still exist. Common wildlife corridors to consider include but are not limited to avian flyways between wetlands or raptor migration routes. The DNR recommends that you consider these resources when planning the general project area, proposed tower locations, transmission lines, and access roads. As the project progresses and the DNR is able to complete a more detailed review, we may have additional and more specific avoidance recommendations in consideration of these resources.

### **Avian Monitoring**

Given the projects proximity to vast areas of wetlands and shallow lakes, surrounding areas of ecological significance, and the potential for wind turbine caused mortality to avian species, the DNR strongly encourages both pre and post construction avian monitoring.

Pre-construction surveys should at a minimum consist of a breeding/point count bird survey. This data will not only assist with the siting of individual towers, it will also be useful in providing information about how avian species are using the area (i.e. migrating, breeding, wintering) and to get a better understanding of projects impacts to usage.

The DNR recommends 2 years of post construction mortality studies using the Minnesota Protocols to Monitor Bat & Bird Mortality at Large Wind Energy Conversion Systems (attached). Yearly mortality reports can be sent to the DNR on January 1 of each year. The Post-Construction Report Guidelines (attached) include the information that should be contained in the reports and where they should be sent. An additional year of surveys are recommended if any state or federal listed species are killed due to operation of the wind farm.

A third party should complete both pre and post-construction surveys and risk monitoring. Proposed methodologies should be submitted to the DNR prior to initiating any of the work.

### **Native Prairie and Pasture Land**

A review of the project area for any pastureland that may contain native prairie should be conducted prior to submitting the project for a permit. Locating these native prairies is not always easy and does not automatically signal project modifications. We recommend hiring an accredited prairie specialist to complete a site review. Review methods should be submitted to the DNR prior to initiating any of the work. The DNR recommended setback from native prairie boundaries is ¼ mile. The USFWS should also be contacted in regards to their recommended setbacks.

### **Public Waters and Wetlands**

Numerous Public Waters are within the project area and further coordination is required with the both the DNR Division of Lands and Minerals and or the Division of Waters if any of these areas are to be crossed or impacted.

For information on where the Public Waters are located in your project area go to the following site and click on the Public Waters Inventory (PWI) Maps Download button: [http://www.dnr.state.mn.us/waters/watermgmt\\_section/pwi/download.html](http://www.dnr.state.mn.us/waters/watermgmt_section/pwi/download.html).

Minnesota Statute 84.415 requires a DNR license be obtained for the passage of any utility over, under or across any state land or public waters. Information concerning the need and process of obtaining a License for Utility can be found at [http://www.dnr.state.mn.us/permits/utility\\_crossing/index.html](http://www.dnr.state.mn.us/permits/utility_crossing/index.html).

Under Minnesota Statute 103G.245, Subdivision 1 (except as provided in Subdivisions 2, 11, and 12), the state, a political subdivision of the state, a public or private corporation, or a person, **must** have a DNR Public Waters Work Permit (application forms) to:

1. construct, reconstruct, remove, abandon, transfer ownership of, or make any change in a reservoir, dam, or waterway obstruction on public waters; or
2. change or diminish the course, current, or cross section of public waters, entirely or partially within the state, by any means, including filling, excavating, or placing of materials in or on the beds of public waters.

Based on the Public Waters Inventory and National Wetland Inventory (NWI) maps the area contains a high number of wetlands. NWI maps are not site specific and, therefore, are not an accurate means of determining and quantifying specific impacts. Many times more wetlands are present than what are depicted on the NWI. NWI GIS shapefiles are available for download from the DNR Data Deli (<http://deli.dnr.state.mn.us/>).

From reviewing the information provided so far it appears that efforts have been made to minimize potential impacts to wetlands and public waters. Wind Turbines 4, 5 & 20 (WT4, WT5 & WT20) are within the recommended setbacks to public waters and wetlands. In their current proposed location, they have the potential to intercept birds flying between wetlands and public waters. These turbines should be sited elsewhere. In other areas, the proposed overhead power lines are also within the recommended setbacks. An effort should be made to relocated the power lines outside of the recommended setbacks. If unavoidable, bird diverters should be utilized.

In order to evaluate potential impacts associated with turbine placement, transmission lines, substations, access roads, and any other infrastructure, a detailed review of potential wetland impacts is recommended for areas in close proximity to disturbance. Potential wetland impact areas will require a boundary delineation and potentially mitigation. The scope of wetland boundary delineations should be within proposed easements. Wetland boundary delineations must be completed in accordance with the current version of the U.S. Army Corp of Engineers Wetland Delineation Manual (see webpage). The delineator must use the proper data sheets for

that specific region (i.e. regional supplements). Using a certified wetland delineator will help to ensure quality delineation work and is many times required by local government units.

Potential wetland impacts could involve the Wetland Conservation Act (WCA). If wetland impacts are likely to occur, you should contact the Board of Water and Soil Resources ([www.bwsr.state.mn.us](http://www.bwsr.state.mn.us)) for information about the WCA. This webpage will also provide useful information about the permitting process along and provide a list of certified wetland delineators.

Discharge of fill or dredge material into waters of the U.S. are also many times regulated under Section 404 of the Clean Water Act and may require a permit from the U.S. Army Corps of Engineers. Information on this permit process and permit staff can be found at <http://www.mvp.usace.army.mil/regulatory/default.asp?pageid=687>.

### **Storm Water Run-off & Invasive Species**

Wind projects disturb soils, surface water and associated ground cover. These disturbances create openings for invasive species that quickly colonize these sites putting adjoining lands and habitat at risk. In addition, this can cause erosion and sedimentation into adjacent waters. The DNR, Soil and Water Conservation District, Minnesota Pollution Control Agency, Department of Agriculture, County and Local Watershed may recommend BMP's for different areas of the project. These BMP practices help address construction and maintenances activities to minimize impacts to soil, water and existing ground cover. The BMP's may also provide site restoration recommendations.

The Minnesota Pollution Control Agency issues the National Pollution Discharge and Elimination System/State Disposal System permit in order to control stormwater runoff from construction sites. Information on the permit process can be obtained at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>.

### **Summary**

Minnesota Administrative Rules 7836.0500, Subpart 7, requires the applicant to analyze potential environmental impacts of the project, proposed mitigative measures, and any adverse unavoidable environmental effects. Groundwater resources, surface waters, wetlands, vegetation, wildlife, rare and unique natural resources, etc. are included. **In order to address the potential environmental impacts the applicant should resolve all outstanding issues with the DNR prior to applying for the Large Wind Energy Conversion System permit from the Public Utilities Commission.**

The project area and surrounding lands contains numerous public waters and wetlands, waterfowl production areas, along with areas of CRP and RIM lands. All of these areas provide quality habitat to a variety of species. The presences of these resources make early coordination with the DNR essential to ensure avoidance of impacts.

In order to address the above referenced issues, and prior to submitting the LWECS site application, a meeting needs to occur. The meeting needs to address all identified issues and

Prairie Wind Energy (Prairie Wind LWECS)  
7/28/2009

how the company plans to avoid and minimize impacts. The company should provide mapping at the meeting that has all of the setbacks discussed in this preliminary review shown along with proposed construction. The discussion should also involve alternatives that reduce the number of turbines, access roads, transmission lines, etc. that would be in the project area.

This review constitutes an office review only and is not a substitute for reviewing potential turbine placement in the field. A field review of the project is forthcoming. The field review should be conducted prior to applying for a permit from the Public Utilities Commission.

The DNR looks forward to working in a positive and collaborative manner on this project to ensure that sustainable energy sources are developed while protecting Minnesota's natural resources. Please contact me directly at 218-308-2672 if you have any questions.

Sincerely,



Nathan Kestner  
NW Regional Environmental Assessment Ecologist  
Division of Ecological Services

Enclosures (3)

Cc:

Lisa Joyal, DNR  
Randall Doneen, DNR  
Peter Buesseler, DNR  
Katie Haws, DNR  
Don Shultz, DNR  
Tom Carlson, DNR  
Nick Rowse, USFWS



# Minnesota Department of Natural Resources

Division of Ecological Resources – Reg. 1 (NW)

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September 29, 2009

Terry Carlson – President  
Prairie Wind Energy  
P.O. Box 33  
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218-338-4875 office  
218-639-3924 cell  
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RE: Prairie Wind - LWECS  
Preliminary Review – follow up letter  
Ottertail County, MN

Dear Mr. Carlson,

The Minnesota Department of Natural Resources (DNR) appreciates the collaborative manner in which you have worked with us to address resource concerns associated with your proposed LWECS project.

The DNR has the remaining comments and recommendations:

### **DNR Setback Recommendations**

Based on previous discussions which took place during the August 28<sup>th</sup> meeting and site visit as well as during a follow up phone call (September 3<sup>rd</sup>, 2009), it is my understanding that turbines PT8, T18, T27, T28, T36, and PT1 (as depicted on the map dated August 21<sup>st</sup>) will be relocated to locations outside DNR recommended setbacks.

The DNR commends the efforts that you have made in recognizing and complying with our setback recommendations. Please have your consultant provide a revised layout as soon as possible.

### **Avian Monitoring**

Given the projects proximity to: vast areas of wetlands and shallow lakes, surrounding areas of ecological significance, the potential for wind turbine caused mortality to avian species; and other long term investments in the area aimed at providing habitat (e.g. Waterfowl Production Areas, USFWS wetland easements, RIM Areas), the DNR strongly encourages both pre and post construction avian monitoring.

Pre-construction surveys should at a minimum consist of a breeding/point count bird survey. The breeding bird point locations should focus on areas where the turbine locations are proposed for construction. Since the actual placement locations of the majority of turbines has already been decided, the pre-construction avian monitoring data will be useful in fine tuning placement and providing information about how avian species are using the area (i.e. migrating, breeding). A greater understanding of projects impacts to birds usage of the area will also be achieved. Observations of raptor usage of the area and locations of all nests within 1 mile of proposed turbine locations should be included in the survey. At a minimum, surveys should occur near the following dates:

- 1 Survey - mid to late April (for migrant shorebirds and nesting raptors)
- 1 Survey - early May (for migrant and breeding shorebirds)
- 2 Surveys - late May and mid June (for breeding passerines and breeding shorebirds).

The DNR does not have an established protocol or guidelines for pre-construction avian or bat surveys at this time. Please have your consultant submit any proposed survey methods prior to commencement so we can provide review and recommendations. Should we develop specific guidelines and/or protocols in the interim, we will make them available.

The DNR recommends 2 years of post construction mortality studies using the Minnesota Protocols to Monitor Bat & Bird Mortality at Large Wind Energy Conversion Systems (attached). Yearly mortality reports can be sent to the DNR on January 1 of each year. The Post-Construction Report Guidelines (attached) include the information that should be contained in the reports and where they should be sent. Status of raptor nests should also be documented as part of the post construction monitoring. An additional year of surveys are recommended if any state or federal listed species are killed due to operation of the wind farm.

A third party should complete both pre and post-construction surveys and risk monitoring. Proposed methodologies should be submitted to the DNR prior to initiating any of the work.

### **Native Prairie and Pasture land**

Our initial preliminary review indicated that a review of the project area for any pastureland that may contain native prairie should be conducted prior to submitting the project for a permit.

Based on the site visit and further review, all proposed turbines locations and associated infrastructure appear to be in areas that have been previously tilled, likewise; the DNR does not believe that the project as proposed will affect areas of native prairie. Should the proposed layout change, we may again recommend that a review of the project area for any pastureland that may contain native prairie be conducted.

To date, the majority of our concerns have been related to recommended setbacks and have been addressed. The DNR looks forward to continuing our dialog in a positive and collaborative manner. This will help to ensure that sustainable energy sources are developed while protecting Minnesota's natural resources at the same time. Please contact me directly at 218-308-2672 if you have any questions.

Prairie Wind Energy (Prairie Wind LWECS)  
09/29/2009

Sincerely,

A handwritten signature in blue ink, appearing to read "Nathan Kestner".

Nathan Kestner  
NW Regional Environmental Assessment Ecologist  
Division of Ecological Services

Enclosures (1)

Cc:

Lisa Joyal, DNR  
Randall Doneen, DNR  
Peter Buessler, DNR  
Katie Haws, DNR  
Don Shultz, DNR  
Tom Carlson, DNR



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Twin Cities Field Office  
4101 American Blvd E.  
Bloomington, Minnesota 55425-1665

July 30, 2009

Mr. Terry Carlson  
Prairie Wind Energy  
P.O. Box 33  
Parkers Prairie, MN 56361

re: Request for environmental review  
Prairie Wind Farm  
Otter Tail County, Minnesota

Dear Mr. Carlson:

This letter is in reference to your request dated May 13, 2009 for information on fish and wildlife resources that may be affected by the proposed Prairie wind farm project in Otter Tail County, Minnesota. These comments are provided under the authority of the Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.) and the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

#### **Federally-listed Species and Candidate Species**

We currently have no records of federally-listed threatened or endangered species or critical habitat at the project site. However, please be aware that over time, habitats near the project site may be utilized by listed or proposed species not present at this time. Therefore, if there is a time lag of more than 6 months between plan completion and execution, it is important to reassess the impact of the project on federally-listed or proposed species or designated critical habitat prior to start of construction activities.

#### **Migratory Birds and Bats**

The Migratory Bird Treaty Act (MBTA), as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of Interior. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible. We encourage the implementation of recommendations that minimize the potential impacts to migratory birds and bats.

Please see Appendix I for general recommendations with regard to wildlife and wind farm installation. We recommend that the Prairie wind farm adopt those guidelines to minimize impacts to migratory birds and bats.

### **Comments Specific to Project Area Wildlife and Habitat**

As you have noted on your map, Starkey Waterfowl Production Area is located within the project boundary. This area has high concentrations of migratory birds (especially waterfowl and shore birds) using the area as a stop-over site. Also, the Almora WMA is adjacent to the project boundary and similarly provides quality stop-over habitat for migratory birds. There may also be displacement of breeding migratory birds if turbines are sited near the WPA and WMA. Therefore, we recommend that turbines be concentrated away from Starkey WPA and Almora WMA, on the west side of the project boundary (unless pre-construction surveys find otherwise). At minimum, we recommend re-siting WT4, 5, 6, and 7 at a distance of ½ mile away from Starkey WPA (unless pre-construction surveys find otherwise).

There are several other additional wetlands within and adjacent to the project boundary, which are used by migratory birds, particularly waterfowl, as stop-over sites. We encourage you to place turbines away from these wetlands and stream corridors, and avoid placing turbines between nearby habitat blocks. Because of their attractiveness to both birds and bats, we recommend that turbines, from the outside edge of the rotor swept area, be located no closer than 100 meters from streams or other water bodies, riparian areas, and wooded edges. Minimum distance from turbines should be increased with the size and habitat quality of the resource. If streams and /or wetlands are proposed to be impacted, the U.S. Army Corps of Engineers should be contacted to determine if permits are necessary. Before applying for a section 404 permit, we recommend that project alternatives are selected that avoid and minimize impacts to streams or wetlands.

We also recommend that no turbines be located within ¼ mile of Conservation Reserve Program, Wetland Reserve Program, Partners for Fish and Wildlife restored land, or other similar federally or state funded restoration projects.

### **Bird/Bat Survey Protocol**

The Service recommends that the project proponent conduct rigorous assessments of bird and bat use of the area before proceeding with project design (i.e., preliminary siting of specific turbines). We recommend Prairie Wind Energy submit a protocol for bird/bat surveys at this site to our office. We encourage Prairie Wind Energy to apply consistency with other wind farm survey protocols, thus allowing us to compare results with other wind farm survey data. These comparisons will potentially provide valuable information that can be applied in future wind farm/turbine macro- and micro-siting.

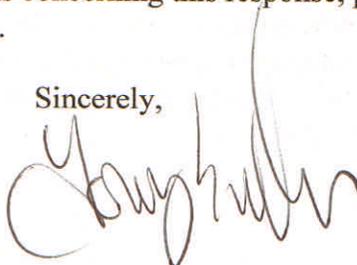
In addition to on-the-ground (point or transect) surveys, we recommend that the assessments include the use of mobile horizontally and vertically scanning radar to study the direction, altitude, and numbers of flying animals moving through and within the project area during the fall and spring migration of birds and bats, and the breeding period of birds in the area. We

recommend that radar be employed for 24 hours a day, 7 days per week during migration and at a minimum from dawn to dusk during the breeding period. Radar studies are providing useful information in evaluating bird and bat activity at wind generation sites in Wisconsin, Vermont, Massachusetts, and other locations. The use of radar coupled with ground-truthing (surveys) can provide a more complete assessment of bird and bat use of a potential wind project area than point counts or other traditional survey methods alone. Such information could inform project design and minimize potential mortality associated with the project.

The Service recommends the project be monitored post-construction to determine impacts to migratory birds and bats. A specific post-construction monitoring plan should be prepared and reviewed by the Service and should include a scientifically robust, peer reviewed methodology of mortality surveys. We recommend that surveys be conducted for a minimum of three years following construction to assess impacts to birds and bats. We also recommend that the post-construction mortality studies be conducted by an independent third party contractor with expertise in bird/bat mortality monitoring. Results of mortality surveys and other forms of monitoring should be used to adjust operations to reduce mortality if necessary and feasible, as well as improve design and siting of future wind generation facilities. Prairie Wind Energy or its contractor should provide to this office each year, no later than December 31, copies of annual bird/bat mortality monitoring reports.

Thank you for the opportunity to review the proposed project. We look forward to continuing to work with you. Should you have questions concerning this response, please contact Rich Davis by telephone at (612) 725-3548, ext. 2214.

Sincerely,



Tony Sullins  
Field Supervisor

Enclosure

cc: Matt Langan, Minnesota DNR

## Appendix I

### Recommended Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines

Although the Service supports the continued development of wind power, wind farms can adversely impact wildlife and associated habitat. The Service is especially interested in minimizing the potential adverse impact with regard to birds and bats. In the fall of 2003 and 2004, it was estimated that thousands of migrating bats were killed each year at wind farms in West Virginia and Tennessee. Similar, but smaller mortality events have occurred at wind farms in several other states, including Pennsylvania and Minnesota. Similar numbers of birds are estimated to be killed each year at wind farms throughout the country. To assist in developing best practices for siting and monitoring of wind farms, the Service published *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines*. The Guidelines provide the following recommendations:

- 1) Pre-development evaluations of potential wind farm sites to be conducted by a team of Federal and/or State agency wildlife professionals with no vested interest in potential sites;
- 2) Ranking potential sites by risk to wildlife;
- 3) Avoid placing turbines in documented locations of federally-listed species;
- 4) Avoid locating turbines in known bird flyways or migration pathways, or near areas of high bird concentrations (i.e., rookeries, leks, refuges, riparian corridors, etc.);
- 5) Avoid locating turbines near known bat hibernation, breeding, or maternity colonies, in migration corridors, or in flight paths between colonies and feeding areas;
- 6) Configure turbine arrays to avoid potential avian mortality where feasible. Implement storm water management practices that do not create attractions for birds, and maintain contiguous habitat for area-sensitive species;
- 7) Avoid fragmenting large, contiguous tracts of wildlife habitat;
- 8) Use tubular supports with pointed tops rather than lattice supports to minimize bird perching and nesting opportunities;
- 9) If taller turbines (top of rotor-swept area is greater than 199 feet above ground level) require lights for aviation safety, the minimum amount of lighting specified by the Federal Aviation Administration (FAA) should be used. Unless otherwise requested by the FAA, only white strobe lights should be used at night, and should be of the minimum intensity and frequency of flashes allowable. Red lights should not be used, as they appear to attract night-migrating birds at a higher rate than white lights;
- 10) Adjust tower height to reduce risk of strikes in areas of high risk for wildlife.

The full text of the guidelines is available at <http://www.fws.gov/r9dhcbfa/wind.pdf>. The Service believes that implementing these guidelines may help reduce mortality caused by wind turbines. We encourage you to consider these guidelines in the planning and design of your project. We particularly encourage you to place turbines away from wetland or wooded areas, and avoid placing turbines between nearby habitat blocks. Because of their attractiveness to birds and bats, we recommend that turbines, from the outside edge of the rotor swept area, be located no closer than 100 meters from streams or other water bodies, riparian areas, and wooded edges. Minimum distance from turbines should be increased with the size and habitat quality of the resource.

Development of transmission infrastructure associated with wind facilities also poses risks to wildlife. These risks include potential avian mortality, particularly electrocution of raptors (hawks, eagles, kites, falcons, and owls), that could occur when they attempt to perch on uninsulated or unguarded power poles. Recently published information about which types of power line poles and associated hardware (e.g., wires, transformers and conductors) pose the greatest danger of electrocution to raptors and what modifications can be made to reduce this threat can be found on the internet at <http://www.aplic.org/>

5/13/2009

Tom Cinadr  
MN SHPO  
MN Historical Society  
345 Kellogg Blvd. W.  
St. Paul, MN. 55102-1903

Re: Prairie Wind Energy Project

Dear Mr. Cinadr,

We are requesting a review and scan on significant historical features from your database for an area that a proposed wind project may be constructed. The proposed project area is located in;

Otter Tail County and the following Townships and Sections:

1. Parkers Prairie Township, T131N, R37W, Section 10 (substation); Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, ~~27, 28, 29, 30, 31, 32, 33, 34 and 35~~ <sup>26</sup>
2. Elmo Township, T132N, R37W, Sections 16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34 and 35.
3. Effington Township, T131N, R38W, Sections 1, 12, 13 and 14.
4. Folden Township, T132N, R38W, Sections 25 and 36.

Township	Township/Range	Section(s)
Parkers Prairie	T131N-R37W	(substation) 10
Parkers Prairie	T131N-R37W	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20 and 21.
Elmo	T132N-R37W	16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, 35 <sup>26</sup>
Effington	T131N-R38W	1, 12, 13 and 14. <sup>24</sup> <sup>26</sup>
Folden	T132N-R38W	25 and 36

I have included a site map for your review.

We are not asking for any information you would normally provide the public, rather an indication of the location of historical sites from SHPO scans that would preclude construction of our project.

The map indicates several site locations where turbines are proposed however we would like flexibility when constructing the towers, roads and electrical infrastructure. The tower has not been selected but we expect the turbine hub height to be constructed between 256 and 330 feet and the rotor in the vertical position to be between 410 to 470 feet. Distances between turbines will be approximately 3,000 feet.

A project substation will be constructed on the NW ¼ of Section 10, Parkers Prairie Township (see map). The interconnecting overhead line from the project substation to Great River Energy's 115 kV transmission line located on the east side of SH 29 and is approximately 300 feet. The project's collection system will consist of a combination of overhead and underground feeder cables rated at 34.5 kV. Please see the attached map for the entire route of the proposed of the collector system. The project will file the necessary permit applications with the state, county and townships to cross any managed roads involved.

Information you or your office provides will help us in determining more specifically the layout of the turbines, roads and underground collections system with the intent on minimizing environmental impacts. Correspondence will be included in a State Permit the project is applying for.

Thank you,

Sincerely,

Terry Carlson  
President  
Prairie Wind Energy  
P.O. Box 33  
Parkers Prairie, MN 56361  
218-338-4875 ofc  
218-639-3924 cell  
tjabcarl@midwestinfo.net

John M. Ihle  
PlainStates Energy  
701-232-4948 ofc  
ljihle@rrt.net

**Janet Carlson**

---

**From:** "John and Lorna Ihle" <ljihle@rrt.net>  
**To:** <tjabcarl@midwestinfo.net>  
**Sent:** Wednesday, May 20, 2009 8:00 AM  
**Attach:** Historic.rtf; Archaeology.rtf  
**Subject:** Fw: Data search request

I'm going to ask Tom Cinadr more about the Arch documnet but I wouldn't do anything more other than a brief description in the permit. I mean, I don't think you'd want to undertake a major survey based on what he's providing here.

----- Original Message -----

**From:** Cinadr, Thomas  
**To:** 'John and Lorna Ihle'  
**Sent:** Wednesday, May 20, 2009 7:50 AM  
**Subject:** RE: Data search request

**THIS EMAIL IS NOT A PROJECT CLEARANCE.**

**This message simply reports the results of the cultural resources database search you requested. The database search produced results for only previously known archaeological sites and historic properties. Please read the note below carefully.**

Archaeological sites and historic properties were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory for the search area requested. **Reports containing the results of the search are attached.**

The result of this database search provides a listing of recorded archaeological sites and historic architectural properties that are included in the current SHPO databases. Because the majority of archaeological sites in the state and many historic architectural properties have not been recorded, important sites or structures may exist within the search area and may be affected by development projects within that area. Additional research, including field survey, may be necessary to adequately assess the area's potential to contain historic properties.

If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson in Review and Compliance @ 651-259-3455 or by email at [kelly.graggjohnson@mnhs.org](mailto:kelly.graggjohnson@mnhs.org).

5/21/2009

The Minnesota SHPO Survey Manuals and Database Metadata and Contractor Lists can be found at <http://www.mnhs.org/shpo/survey/inventories.htm>

**SHPO research hours are 8:00 AM – 4:00 PM Tuesday-Friday.**

**The Office is closed on Mondays.**

Tom Cinadr  
Survey and Information Management Coordinator  
Minnesota State Historic Preservation Office  
Minnesota Historical Society  
345 Kellogg Boulevard West  
St. Paul, MN 55102

651-259-3453

**From:** John and Lorna Ihle [mailto:ljihle@rrt.net]  
**Sent:** Tuesday, May 19, 2009 9:24 AM  
**To:** Cinadr, Thomas  
**Subject:** Re: Data search request

----- Original Message -----

**From:** Cinadr, Thomas  
**To:** 'ljihle@rrt.net'  
**Sent:** Tuesday, May 19, 2009 9:00 AM  
**Subject:** Data search request

John,

Send me a list of Township/Range/Section coordinates you would like to be searched for cultural resources.

Tom

Tom Cinadr  
Survey and Information Management Coordinator  
Minnesota State Historic Preservation Office  
Minnesota Historical Society  
345 Kellogg Boulevard West  
St. Paul, MN 55102

651-259-3453

5/21/2009

Prairie Wind Energy, LLC  
P.O. Box 33  
Parkers Prairie, MN 56361

Mr. Edward Davison  
National Telecommunications & Information Administration (NTIA)  
Domestic Spectrum Policies & IRAC Support Division (DSID)  
Room 4099A, HCHB  
1401 Constitution Avenue NW  
Washington, DC 20230

**Date:** February 24, 2011

**Type of Notification:** New

**Project:** Prairie Wind Energy

**Counties:** Otter Tail

**State:** Minnesota

**Project Sponsor:** Prairie Wind Energy, LLC, a Minnesota Limited Liability Company.  
Terry Carlson, President  
Prairie Wind Energy, LLC, P.O. Box 33, Parkers Prairie, MN 56361  
Cell: (218) 639-3924  
tcarlson@pwemn.net

**Turbine Description:**

**Number of Turbines:** 41

**Turbine Hub Height AGL (meters):** 92.5 meters

**Turbine Blade Diameter (meters):** 117 meters

**Maximum Blade Tip Height AGL (meters):** 163.25 meters

**Wind Farm Boundary Points in NAD83:**

	Latitude	Longitude
North West	46.2454848345	-95.4194984123
North East	46.2459330728	-95.3017540466
South West	46.1368744307	-95.4175068411
South East	46.1367861539	-95.302404713

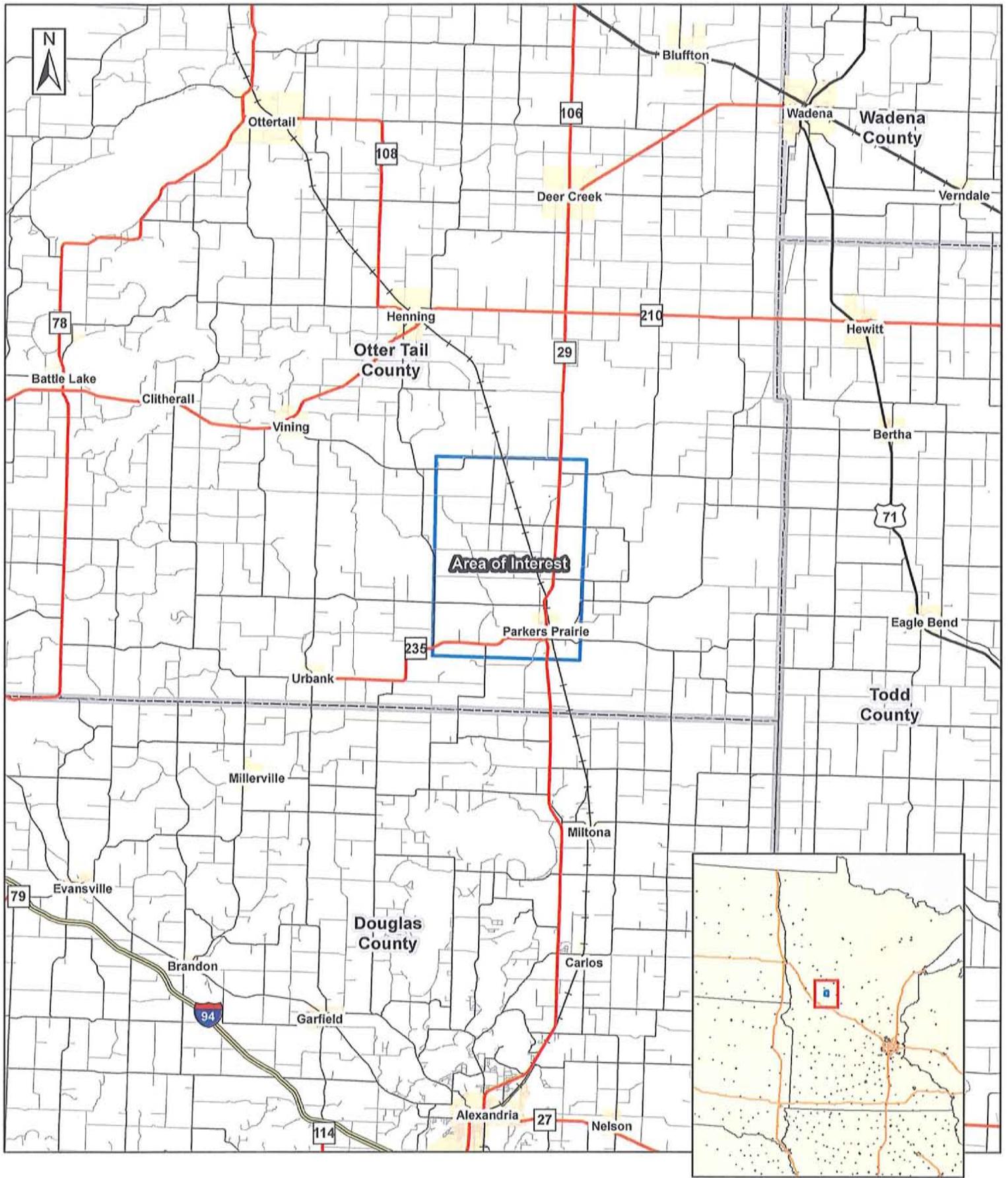
Attached is a map outlining the Project boundaries within Minnesota and a map showing the boundaries at a local level.

If you have any questions regarding this notification, please feel free to contact me.

Sincerely,

/s/Terry Carlson (original signed February 24, 2011)

Terry Carlson, President



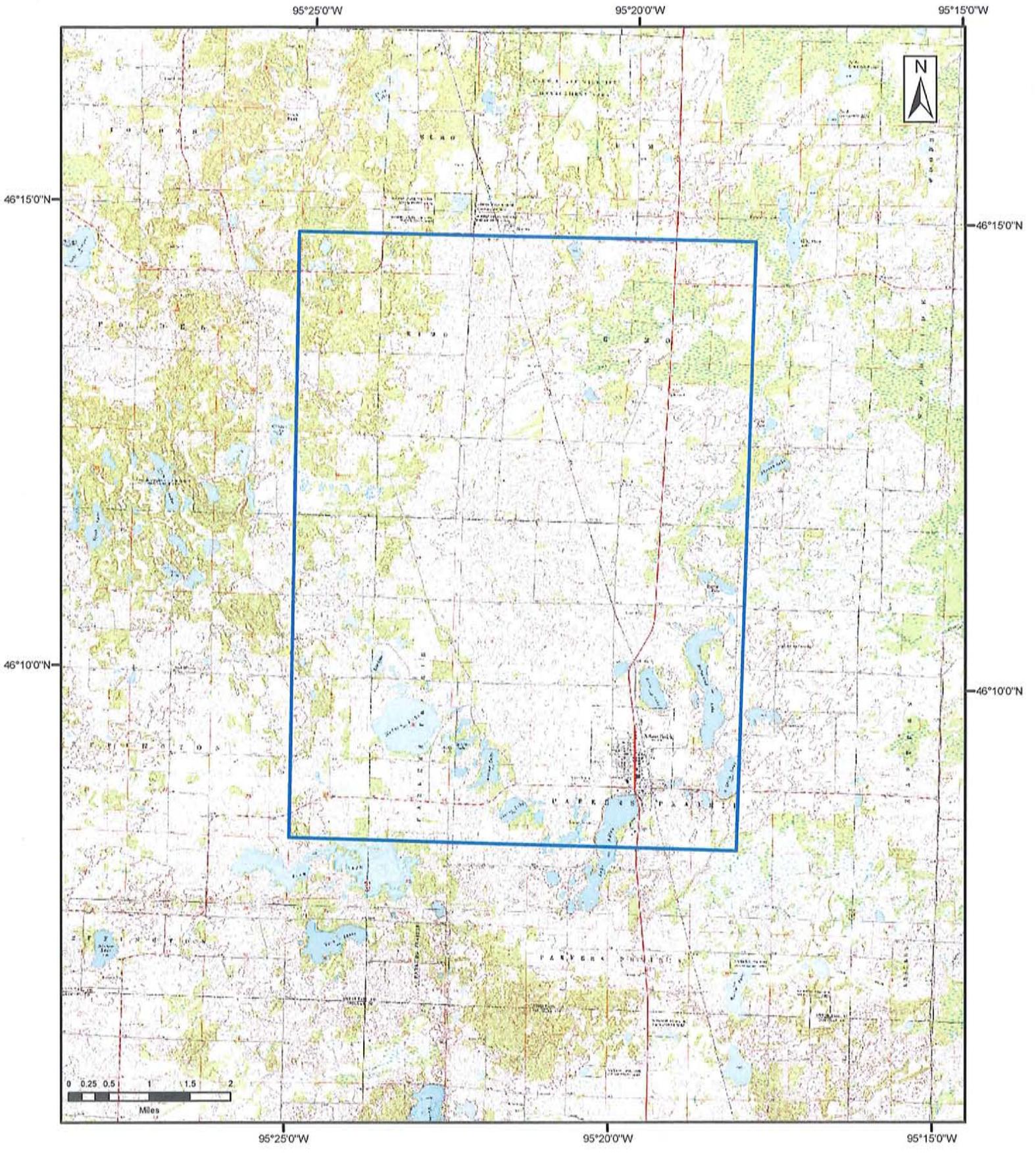
**Figure 1**

**Prairie Wind Energy Project Area**



-  Urban Areas
-  Area of Interest

Location	Latitude	Longitude
Upper Left	46.24548483	-95.41949841
Upper Right	46.24593307	-95.30175405
Lower Left	46.13687443	-95.41750684
Lower Right	46.13678615	-95.30240471



**Figure 2**

**Prairie Wind Energy  
Local Area**

 Area of Interest

Location	Latitude	Longitude
Upper Left	46.24548483	-95.41949841
Upper Right	46.24593307	-95.30175405
Lower Left	46.13687443	-95.41750684
Lower Right	46.13678615	-95.30240471





**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Telecommunications and**  
**Information Administration**  
Washington, D.C. 20230

APR 29 2011

Ms. Terry Carlson, President  
PRAIRIE WIND ENERGY LLC  
PO Box 33  
Parkers Prairie, MN 56361

Re: Prairie Wind Project, in Otter Tail County, MN

Dear Ms. Carlson:

In response to your request on February 24, 2011, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC) the plans for the Prairie Wind Energy Project, located in Otter Tail County, Minnesota.

After a 45 day period of review, no federal agencies identified any concerns regarding blockage of their radio frequency transmissions.

While the IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,

Edward M. Davison  
Deputy Associate Administrator  
Office of Spectrum Management

## Resolution of Support for a Wind Project

WHEREAS, agriculture and energy are a major and integral part of Otter Tail County and the State of Minnesota's economic security, and

WHEREAS, the Minnesota State Legislature has, through Community-Based Energy Development (C-BED) guidelines, directed electric utility's providing service in Minnesota to help facilitate locally owned wind energy projects and,

WHEREAS, Otter Tail County recognizes that C-BED wind energy projects can and should play a larger role in providing energy through locally generated wind projects, and

WHEREAS, localized wind energy projects support economic development, and

WHEREAS, wind projects will contribute economically to Otter Tail County by way of property tax payments, land lease payments, local ownership and ancillary benefits, and

WHEREAS, wind energy development within the State lessens the State of Minnesota's dependence on the importation of electricity from North Dakota, South Dakota and Manitoba, and

WHEREAS, wind energy projects mitigate pollution generated by fossil fuel, and

WHEREAS, the mitigation of pollution supports recreational activities such as fishing, hunting, and other outdoor activities, and

WHEREAS, Prairie Wind Energy, LLC has proposed a project consisting of 100 MW of wind generated electricity, and

WHEREAS, the wind project will sell the wind generated electricity to a Minnesota Utility, and

WHEREAS, this wind project is currently being permitted at the local, state and federal levels, and

WHEREAS, the project is located in Parkers Prairie, Elmo, Effington and Folden Townships in Otter Tail County,

BE IT RESOLVED, that Otter Tail County Board of Commissioners go publicly on record supporting the wind project in Otter Tail County, being developed by Prairie Wind Energy, LLC.

Dated: 06/23/09 OTTER TAIL COUNTY BOARD OF COMMISSIONERS

By: Ewert P. Erickson

Attest: Larry Kuhn