

Appendix B



Assessment of Impacts and Determination of Effects to Threatened and Endangered Species

Campbell County Wind Farm



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1.0 Introduction and Background

1.1 INTRODUCTION

The U.S. Department of Energy, Western Area Power Administration's Upper Great Plains Regional Office (Western) received an interconnection request for system access in South Dakota from Dakota Plains Energy (Dakota Plains). Dakota Plains proposes to develop the Campbell County Wind Farm, a 99 megawatt (MW) wind energy facility located on approximately 8,000 acres of private land in western Campbell County, South Dakota (CCWF, or Project).

1.2 LOCATION

The proposed Campbell County Wind Farm (CCWF) is located in western Campbell County, South Dakota in north-central South Dakota (**Figure 1 and Figure 2**).

1.3 FEDERALLY LISTED RESOURCES IN CAMPBELL COUNTY

Five federally listed species under the Endangered Species Act (ESA) may occur in Campbell County, SD (USFWS 2013a): Whooping crane, piping plover and its Designated Critical Habitat, interior least tern and pallid sturgeon. The Sprague's pipit, a candidate species for listing, may also occur in this county (USFWS 2013a).

1.4 PROJECT DESCRIPTION

1.4.1 Western's Federal Proposed Action

Western's federal proposed action is to consider the execution of an interconnection agreement based on a generation interconnection request for the proposed Project filed by Dakota Plains under Western's Open Access Transmission Tariff (OATT). More information on Western's OATT can be found at:

<http://www.oasis.oati.com/WAPA/WAPAdocs/WAPA-Tariff-Docs.htm>.

The interconnection request filed by Dakota Plains is for access to Western's 230kv transmission line, approximately 15 miles north of Western's existing Glenham Substation, east of Glenham, South Dakota which is presently in place and operating.

Dakota Plains is filing the interconnection request as a result of their proposed Campbell County Wind Farm. Modifications to Western's facilities would include the construction of a switching station and substation in the general vicinity of the Project.

Therefore, the effects of the execution of the interconnection agreement would be the construction, operation, maintenance, and decommissioning of the proposed Project, switching station and substation.

This Biological Assessment (BA) contains a discussion of these effects for the purpose of Section 7 of the Endangered Species Act (ESA), and considers direct effects from the Federal Action (the execution of an interconnection agreement) as well as the indirect effects that would be expected to occur from the construction, operation, maintenance, and decommissioning of the proposed Project, switching station and substation.

1.4.2 Dakota Plain's Proposed Project

The proposed interconnection Project is a wind turbine generation facility consisting of 49 wind turbine generators, with a total nameplate capacity of approximately 99 MW. The Project area encompasses approximately 12.5 square miles (8,000 acres) south of Pollock, South Dakota (**Figure 1**). Additional facilities would include a collection substation, a switching yard, a construction laydown area, access roads, and electrical collection systems and cabling. All collection lines would be underground. Approximately 500-foot long overhead tie line would be constructed to connect the Project substation with an existing Western transmission line.

1.4.3 Wind Project Construction Activities

Dakota Plain's proposed Project is anticipated to have a nameplate capacity of approximately 99 megawatts (MW) consisting of 49 Vestas V100 2.0 MW wind turbine generators. Additional facilities include a meteorological (met) tower, a Project collection substation, construction laydown area, access roads, and electrical collection systems with underground cabling. Overhead transmission would be limited to the approximately 500 feet of 230-kV overhead tie line to connect the proposed Project substation with an existing transmission line.

Several activities would need to be completed prior to the proposed commercial production date. The majority of the activity would relate to equipment ordering lead-time, as well as design and construction of the facility. Below is a preliminary chronological list of activities necessary to develop the proposed Project. Pre-construction, construction, and post-construction activities for the proposed Project would include:

- Ordering of all necessary components including towers, nacelles, blades, foundations, and transformers;
- Final turbine micro-siting;
- Complete survey to microsite locations of structures and roadways;
- Soil borings, testing and analysis for proper foundation design and materials;
- Complete construction of access roads, to be used for construction and maintenance;
- Trenching of underground collection lines;
- Design and construction of the Project substation and 230-kV tie line;
- Design and construction of Western's substation and switching yard
- Installation of tower foundations;
- Installation of underground and aboveground cables and 230-kV tie line;
- Tower placement and wind turbine setting;
- Acceptance testing of facility; and
- Commencement of commercial production date.

The Project area encompasses approximately 12.5 square miles (8,000 acres) south of Pollock, and approximately 8 miles west of Herreid, South Dakota (**Figure 1**). The proposed Project would consist of an array of wind turbines, each with its associated transformer. It would consist

of up to 49 2.0-MW turbines. Each turbine generator would have a hub height of 262 feet and be up to 423 feet tall from the base of the tower to the tip of the upright blade. Turbines would begin operation in wind speeds of 3.0 meters per second (m/s, or 6.7 miles per hour [mph]) and reach their rated capacity (2.0 MW) at a wind speed of 12 m/s (26.8 mph).

The turbines would be connected to the Operations and Maintenance (O&M) facility by an underground fiber optic communication cable and to the collection substation by a power collection cable network. The Project layout includes approximately 24 miles of collection lines connecting turbine arrays to the collector substation located in the southeast corner of the Project area.

Turbine access roads would be built adjacent to the towers, allowing access to the turbines during and after construction. The proposed Project would include approximately 12 linear miles of new service roads. Service roads will be aggregate-surfaced and up to 16 feet wide. Temporary roads required to support crane access to turbines during operation would remain up to 40 feet wide; the project also includes turbine access roads built 12 feet wide. The specific turbine placement would determine the extent of access roadway that would need to be constructed for the Project.

The collector substation would be connected to the Western Substation Line via approximately 500 feet of 230-kV overhead tie line. The Western Substation would be located between towers 79/4 and 80/1 on Western's existing 230 kV line. The static wire on the transmission line will be marked with bird diverters.

A permanent met tower is proposed for the Project. The proposed met tower would be 80 meters (164 feet) high when installed. The tower pole would be 8–10 inches wide and would be secured with several guy wires anchored up to 165 feet away. The guy wires would be marked with diverter balls (for aircraft), which also serve as bird diverters.

During the construction phase, several types of light, medium and heavy-duty construction vehicles would travel to and from the site, as well as private vehicles used by construction personnel. Dakota Plains estimates that there would be approximately 50 additional trips per day in the area during peak construction periods. That volume would occur during the peak time when the majority of the road, foundation and tower assembly are taking place. At the completion of each construction phase this equipment would be removed from the site or reduced in number.

Construction is scheduled to begin in December 2013. Dakota Plains would anticipate testing and operation to begin in late fall of 2014, and commercial operation of the Project to begin producing energy by the end of 2014.

1.5 ASSESSMENT METHODOLOGY

The proposed project was evaluated for potential impacts to the federally listed species in Campbell County based on historical records; species range information, presence/absence of individuals during surveys, and availability of appropriate habitat within or near the Project area. Determinations were assigned to assessed/evaluated species as defined by the USFWS (Section 2.1.1).

2.0 Results and Determinations

2.1 DETERMINATION OF EFFECTS TO THREATENED AND ENDANGERED SPECIES

2.1.1 Summary of Effects

Determination	Species/Critical Habitat
<i>No Effect:</i> This determination is appropriate when the proposed project will not directly or indirectly affect (neither negatively nor beneficially) individuals of listed, proposed species or designated/proposed critical habitat of such species. No concurrence from USFWS required.	Pallid Sturgeon
<i>May Affect but Not Likely to Adversely Affect:</i> This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals of listed species and/or designated critical habitat. Concurrence from USFWS required.	Interior Least Tern, Whooping Crane, Piping Plover and Piping Plover Designated Critical Habitat
<i>May Affect and Likely to Adversely Affect:</i> This determination is appropriate when the proposed project is likely to adversely impact individuals of listed species and/or designated critical habitat. Formal consultation with USFWS required.	
<i>May affect but Not Likely to Jeopardize candidate or proposed species/critical habitat:</i> This determination is appropriate when the proposed project may affect, but is not expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Concurrence from USFWS optional.	Sprague's Pipit
<i>Likely to Jeopardize candidate or proposed species/critical habitat:</i> This determination is appropriate when the proposed project is reasonably expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Conferencing with USFWS required.	

Source: USFWS 2012

2.1.2 Description of Effects Determinations

Interior Least Tern (*Sterna antillarum*)

Status: Endangered

Interior least terns are generally restricted to larger meandering rivers with a broad floodplain, slow currents and greater sedimentation rates, which allow for the formation of suitable habitat. The interior least tern is known to nest on midstream sandbars along the Yellowstone and Missouri River systems in South Dakota. The species constructs bowl-shaped depression nests on sparsely vegetated sandbars and sandy beaches during the nesting period, which occurs between mid-May through mid-August (USFWS, 2013b). Least terns nesting at sandpits and other off-river sites often fly up to two miles to forage at river sites. Least terns nesting on riverine sandbars usually forage close to the nesting colony (NGP 2013).

Suitable nesting habitat is not present within the Project boundary (**Figure 3**). The closest potential habitat is west of the project area along the Missouri River, approximately 0.5 to 1.0 miles from the west boundary of the project. Under the proposed action, no construction is planned for areas within known interior least tern nesting habitat. Noise from at least some of the construction equipment and human presence adjacent to nesting least terns could cause adults to abandon nests or to leave the nests long enough that the eggs or chicks become chilled or are preyed upon. However, the project is, at its closest, over 2,500 ft away and would be on an upland plateau considerably higher in elevation than the shoreline and outside the line-of-sight from potential nesting areas. Additionally, if distant noise from construction activities would reach nesting habitat, it would be of short duration and minimal. Therefore, disturbance of nesting terns due to Project activities is highly unlikely.

The potential exists for interior least tern to collide with the wind turbines, including the blades and towers during breeding, staging, and migration periods. The results of available mortality studies conducted primarily in terrestrial environments for general avian species indicate that the majority of collisions with man-made structures take place at night during periods of inclement weather (Gehring, 2009). Birds that fly within the rotor zone of the proposed turbines during periods of low visibility would be at the greatest risk of collision. The risk of collision of least terns during migration movements would be based on flight frequency through the proposed project area, height of flight, visibility conditions, and turbine avoidance behaviors, which are not known. This would be particularly true as young inexperienced fledglings begin to leave the nest. Additionally, the met tower and the static wire on the transmission line will be marked with diverter balls to minimize collision risk.

In summary, the closest potential tern nesting habitat is approximately 0.5 to 1.0 miles from the west boundary of the project area along the Missouri River. Construction activity poses no risk to destroying any active nests. However, it is possible that least tern mortality may result from collisions with the operational wind farm; therefore, the proposed project **may affect, but is not likely to adversely affect** the interior least tern.

Whooping Crane (*Grus americana*)

Status: Endangered

The Aransas-Wood Buffalo Population (AWBP) of whooping cranes is the only self-sustaining migratory population of whooping cranes remaining in the wild. The individuals representing the AWBP comprise one of the rarest and most imperiled self-sustaining avian populations in

the world, with a population size of less than 300 individuals. The species breeds in wetland habitat associated with Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinters on the Texas coast. The migration period for the AWBP whooping cranes in South Dakota generally spans from April 1 through May 15 in the spring and from September 10 through October 31 in the fall each year (NPWRC 2013).

Endangered whooping cranes are frequently documented using roosting/feeding habitat in South Dakota each year within the species migration corridor, where 95% of all confirmed whooping crane sightings occur. The project area is located within the migration corridor where 75% of whooping crane observations have been made (Tacha et al. 2010) (**Figure 4**). Based on historical records, eight whooping crane observations have been made within 9.2 miles of the proposed Project area (Tacha 2010, **Figure 4 and Table 1**).

Observation Number	Date	Distance From Project Area	Latitude	Longitude	Legal Description
73B-3	10/6/1973	3.0	45.866667	-100.350000	T128N,R79W,S36
69B-1	10/20/1969	4.3	45.900000	-100.250000	T128N,R78W,S14
70B-6	10/20/1970	4.5	45.900000	-100.300000	T128N,R78W,S17
88B-1	10/16/1988	4.7	45.905556	-100.265000	T128N,R78W,S15
64B-4	9/15/1964	7.6	45.933333	100.283333	T128N,R79W,S4
85B-29	10/28/1985	9.0	45.901667	-100.47527	T22N,R29E,S1
03B-11	10/13/2003	9.2	45.774444	-100.038056	T127N,R76W,S33
76A-34	5/29/1976	9.1	45.666667	-100.066667	T125N,R76W,S5

The cause of most whooping crane fatalities is unknown since the migratory corridor is vast and fatalities may occur in remote areas. Of the documented causes of fatality during migration, powerline collision fatalities may be in the range of approximately 33% to 38% (APLIC 2012). Since 1956, 46 whooping cranes have been killed (91% of collisions) or seriously injured (9% of collisions) as a result of collisions with powerlines (Stehn and Wassenich 2008). There is the potential for whooping cranes to collide with tall structures such as transmission lines and poles when moving between foraging and roosting sites (CWS and USFWS 2007, Stehn and Wassenich 2006). As a result of that potential, the USFWS' whooping crane recovery plan lists construction of power lines and other structures in the migration corridor as a threat to the species (CWS and USFWS 2007).

To minimize potential impacts to the whooping crane due to transmission lines, all collection lines associated with the project would be buried to reduce the potential collisions. An overhead tie line will be used to connect the proposed Project substation with an existing transmission line. Additionally, the met tower and the static wire on the transmission line will be marked with diverter balls to minimize collision risk.

Suitable migratory stopover habitat for whooping cranes includes wetlands with areas of shallow water without visual obstructions (i.e., high or dense vegetation). Armbruster (1990) found that horizontal visibility (straight-line distance to the nearest obstruction greater than 1 m in height) must be greater than 20 m before a site can be considered as potential habitat, and a zone of influence (activity) of 100 m is avoided around permanent structures, including roads, overhead utility lines, commercial buildings and houses. Whooping cranes have been documented to utilize a wide range of wetland sizes for roosting, from some of the smallest

natural palustrine wetlands and manmade stock ponds (≈ 0.10 ha or 0.25 ac) to large lacustrine lakes and rivers. Foraging and roosting sites are typically less than 1 km (0.6 mi) apart but can occasionally be separated by more than 8 km (~ 5 mi). Potential stopover habitat and suitable foraging/roosting sites does occur within the project area (**Figure 5**).

A landscape-scale analysis to assess the potential occurrence and risk to whooping cranes was conducted by evaluating the biological landscape features of a ten-mile buffer surrounding the Project area (Study Area). The analysis involved: 1) determining the acreage of wetlands within the Study Area, and 2) comparing the proportion of the Study Area wetlands to the proportion of wetlands within a ten-mile-wide buffer zone around the Study Area (Buffer Zone), 3) determining the proportion of wetlands on the Study Area within 1 km (0.62 mile) of an agricultural field (Wetland-Agricultural Matrix), and 4) comparing the proportion of wetland-agricultural matrix within the Study Area to the proportion within the Buffer Zone.

United States Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) data for North Dakota was used to determine the total acreage of wetlands of any size within the Study Area and within the Buffer Zone. The percent of wetland acreage within the Study Area and the percent of wetland acreage within the Buffer Zone around the Study Area was compared to determine whether the Study Area contains more wetlands than the Buffer Zone.

The United States Department of Agriculture (USDA) 2006 National Land Cover Dataset (NLCD) was used to quantify the amount of foraging habitat in the Study Area and Buffer Zone. A U.S. Geological Survey (USGS) study found that agricultural crops, especially corn, sorghum, and winter wheat, were the habitats most often contiguous to whooping crane roosting areas (Austin and Richert 2001). Most whooping cranes traveled 0.62 miles from a roosting site to a foraging site. Therefore, wetlands within 0.62 miles of agricultural crops form the wetland-agriculture habitat matrix that is often used by whooping cranes during migration (USFWS 2009). The proportion of the Study Area that was comprised of a wetland-agricultural matrix was determined. Riparian areas (notably the Missouri River corridor) are not large enough for whooping crane use and were not used in the analysis, but all wetlands were included because whooping cranes use a variety of wetland sizes, devoid of emergent zones, for roosting (Austin and Richert 2001). The analysis included cropland of a minimum one-acre area, since areas less than one-acre are not utilized by whooping cranes (Austin and Richert 2001).

The Study Area and Buffer zone were each analyzed for total acres, total acres of wetlands, total acres of agricultural land, and total acres of wetland-agricultural matrix (**Figure 5**). The Study Area is 7,998 acres in size and consists of 1,737 total acres of agricultural land (21.7 percent), 59 acres of wetland (0.7 percent), and 7,793 acres of wetland-agricultural matrix (97.4 percent) (**Table 2**). The Buffer Zone is 329,634 acres in size and consists of 47,522 total acres of agricultural land (14.4 percent), 11,376 acres of wetland (3.4 percent), and 225,255 acres of wetland-agricultural matrix (68.3 percent) (**Table 2**).

The Study Area is characterized by approximately 97.4 percent wetland-agriculture matrix, indicating that whooping cranes could find suitable roosting and foraging habitat and could therefore fly at low altitudes in the area. The red hatched areas in Figure 4 indicate areas that are **not** ideal foraging habitat for whooping cranes within the Study Area and the Buffer Zone.

Table 2. Wetland-Agriculture Matrix Results						
	Study Area		Buffer Zone		Total Area	
Wetlands	59	0.74%	11,376	3.45%	11,435	3.39%
Cropland	1,737	21.72%	47,522	14.42%	49,259	14.59%
Exclusion	205	2.56%	104,379	31.67%	104,584	30.98%
Attractive	7,793	97.44%	225,255	68.33%	233,048	69.02%
Total	7,998		329,634		337,632	

If roosting, foraging, or in-flight whooping cranes are observed within one mile of the project site, construction/operation should cease until the U.S. Fish and Wildlife Service (USFWS) is contacted within 24 hours, or the next business day, whichever comes first, in order to evaluate the level of disturbance risk to the individuals present within the vicinity of the project area. The South Dakota USFWS can be contacted at (605) 224-8693. Following coordination with the USFWS, activities will resume if it is unlikely the birds will be disturbed by the continuation of the activities or after the bird(s) relocate to a new site beyond the disturbance area of the project site.

The project area includes potential stopover or suitable foraging/roosting sites for whooping cranes. However, based upon the above-described conservation measures and environmental commitments to minimize the risk of disturbance to whooping cranes, any adverse effects of the proposed action are unlikely and if any effects may occur, they are expected to be negligible. Therefore, the proposed project **may affect, but is not likely to adversely affect** the whooping crane.

Pallid sturgeon (*Scaphirhynchus albus*)

Status: Endangered

Pallid sturgeons prefer turbid, main stem shallow river channels with sand and gravel bars. They are present but scarce in the upper Missouri River and lower Yellowstone Rivers between the Garrison Dam and Fort Peck Dam. They are very scarce in other Missouri River reservoir reaches, except downstream of Gavins Point Dam where they are slightly more common (USFWS, 2013c).

There is no suitable pallid sturgeon habitat with the project area. The Missouri River/Lake Oahe would be the closest potentially suitable habitat for this species, which is 1.2 miles from the west boundary of the project area. Upland intermittent drainages within the project area would eventually drain into the Missouri River during heavy precipitation events. Construction activities have the potential to cause sedimentation to waterways, which could impact water quality of pallid sturgeon habitat in the Missouri River. However, erosion control BMPs would be used during any soil-disturbing activities to prevent soil erosion and sedimentation. With these practices in use, the proposed project would not increase sedimentation that could impact the pallid sturgeon. Therefore, the proposed project would have **no effect** to the pallid sturgeon.

Piping Plover (*Charadrius melodus*) and Designated Critical Habitat

Status: Threatened

Suitable nesting habitat for piping plovers in the Missouri River system is characterized as sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and island margins that interface with the river channel. Nearly all natural lakes used by plovers in South Dakota are alkaline in nature and have salt-encrusted, white beaches, likely selected due to their sparse vegetation. Breeding piping plover rarely travel more than one mile from their nest sites during the breeding season (USFWS, 2002a). Critical habitat for the Northern Great Plains piping plover has been designated on alkali lakes and wetlands, and the Missouri River System in South Dakota (**Figure 3**; USFWS, 2002b).

Height of flight is an important factor to consider when assessing the risk of collision to piping plover. During the breeding season piping plover are mainly sedentary as they forage on invertebrates on the shorelines near nest sites. During this period, plovers mainly travel by walking or running between proximal foraging and breeding sites, however, some plovers may undertake short flights to foraging areas, flying low over the water (or adjacent land), typically less than 10 meters (33 feet), but sometimes at higher, unknown altitudes (Cape Wind Associates, 2007). Their regular daily movements are not expected to result in crossings of the proposed project area. Unusual crossings of project area during the breeding season could include the crossings of failed breeders or unpaired birds seeking alternate habitat or a mate.

Under the proposed action, no construction is planned for areas within known piping plover nesting habitat. Noise from at least some of the construction equipment and human presence adjacent to nesting piping plover could cause adults to abandon nests or to leave the nests long enough that the eggs or chicks become chilled or are preyed upon. However, the project is, at its closest, over 2,500 ft away and would be on an upland plateau considerably higher in elevation than the shoreline and outside the line-of-sight from potential nesting areas. Additionally, if distant noise from construction activities would reach nesting habitat, it would be of short duration and minimal. Therefore, disturbance of nesting piping plovers due to Project activities is highly unlikely.

The potential exists for piping plovers to collide with the wind turbines, including the blades and towers during breeding, staging, and migration periods. The results of available mortality studies conducted primarily in terrestrial environments for general avian species indicate that the majority of collisions with man-made structures take place at night during periods of inclement weather (Gehring, 2009). Birds that fly within the rotor zone of the proposed turbines during periods of low visibility would be at the greatest risk of collision. The risk of collision of piping plovers during migration movements would be based on flight frequency through the proposed project area, height of flight, visibility conditions, and turbine avoidance behaviors, which are not known. This would be particularly true as young inexperienced fledglings begin to leave the nest. Additionally, the met tower and the static wire on the transmission line will be marked with diverter balls to minimize collision risk.

The risk of collision of piping plover during migration movements would be based on flight frequency through the proposed project area, height of flight, visibility conditions, and turbine avoidance behaviors (which are not known). Cape Wind Associates (2007) used the Band model to estimate a 91 to 99 percent plover avoidance rate based on a range of known avoidance rates calculated for other species. These avoidance rates are consistent with rates calculated at a few

existing wind farms in the U.S. where mainly geese and raptor species were estimated to have avoidance rates greater than 95 percent.

In summary, the closest potential piping plover nesting habitat is approximately 0.5 to 1.0 miles from the west boundary of the project area along the Missouri River. Construction activity poses no risk to destroying any active nests. However, it is possible that piping plover mortality may result from collisions with the operational wind farm; therefore, the proposed project **may affect, but is not likely to adversely affect** to the piping plover.

Candidate Species:

Sprague's Pipit (*Anthus spragueii*)

Status: Candidate

The Sprague's pipit is a ground nesting bird that breeds and winters on open grasslands. It feeds mostly on insects, spiders and some seeds. The Sprague's pipit is closely tied with native grassland habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota and South Dakota, as well as south-central Canada (USFWS 2010). During the breeding season, Sprague's pipits prefer large patches of native grassland with a minimum size requirement thought to be approximately 145 ha (358.3 ac) (range 69 to 314 ha or 170 to 775 ac), though other research states that Sprague's pipits were not found in patches in less than 29 ha (71.6 ac) (USFWS 2010). Davis (2004) discussed the ratio of patch size to edge area was actually a better indicator of Sprague's pipit presence, rather than patch size alone. Sprague's pipits prefer areas with a low edge to patch size ratio. The species prefers to breed in well-drained, open grasslands and avoids grasslands with excessive shrubs. Preferred grass height is estimated to be between 10 and 30 cm. Sprague's pipits have not been documented to nest in cropland (Owens and Myers 1973; Koper et al. 2009). They may avoid roads, trails, and habitat edges. Sprague's pipits avoid roads, vertical structures including wind towers, and oil and gas well pads by 350 m (1148 ft) (USFWS 2010). Sprague's pipits avoid features in the landscape that are structurally different than grassland.

Due to the avoidance habits of this species, large patch size requirements, and no observations of the species during past avian surveys of the project area, it is believed the presence of the Sprague's pipit within the project area is possible, but unlikely.

Areas of the site provide suitable native grassland habitat that could support the Sprague's pipit (USFWS2010) (**Figure 6**). However, some of these native prairie remnants may not be sufficient to support Sprague's pipit due to their small size, proximity of wooded patches, and presence of other features. Potential impacts to the species could occur by directly removing, altering, or fragmenting habitat during the construction of Project facilities. To minimize impacts to the Sprague's Pipit, to the extent possible, turbines would be sited in agricultural fields, within 350m of existing roads, and/or construction would be done outside of the nesting season. The proposed project **may affect, but is not likely to adversely affect** to the Sprague's pipit.

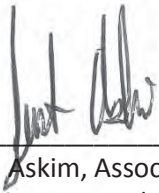
3.0 Conclusion

The proposed project could have impacts to three endangered species (Whooping Crane, Interior Least Tern and Piping Plover) and one candidate species (Sprague's Pipit). Several measures would be taken to minimize the identified potential impacts. Potential impacts to the Whooping Crane would be minimized by burying collection lines, minimizing the length of overhead lines, and ceasing construction/operation if roosting, foraging, or in-flight whooping cranes are observed within one mile of the project site during migration. Potential impacts to the least tern and piping plover and their habitat would be minimized by since the Project area is at a higher elevation and away from shoreline, and if construction occurs outside of the nesting/breeding periods. Potential impacts to the Sprague's Pipit would be minimized by placing turbines in agricultural fields, within 350m of existing roads if possible, and/or conducting construction outside of the nesting season. Due to the project areas close proximity to Interior Least Tern and Piping Plover habitat, mortality may result as a consequence of collisions when the wind farm is operational. Therefore adverse effects to federally listed or candidate species from the proposed project would be unlikely.

4.0 Signatures

The services performed by Wenck scientists for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

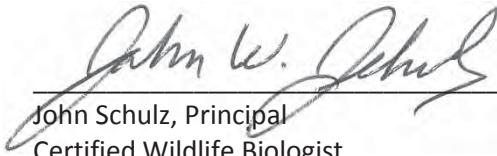
Wenck Wildlife Biologist, Justin Askim, and Certified Wildlife Biologist, John Schulz prepared this report.



Justin Askim, Associate
Wildlife Biologist/Natural Resources Specialist

6/5/2014

Date



John Schulz, Principal
Certified Wildlife Biologist

6/5/2014

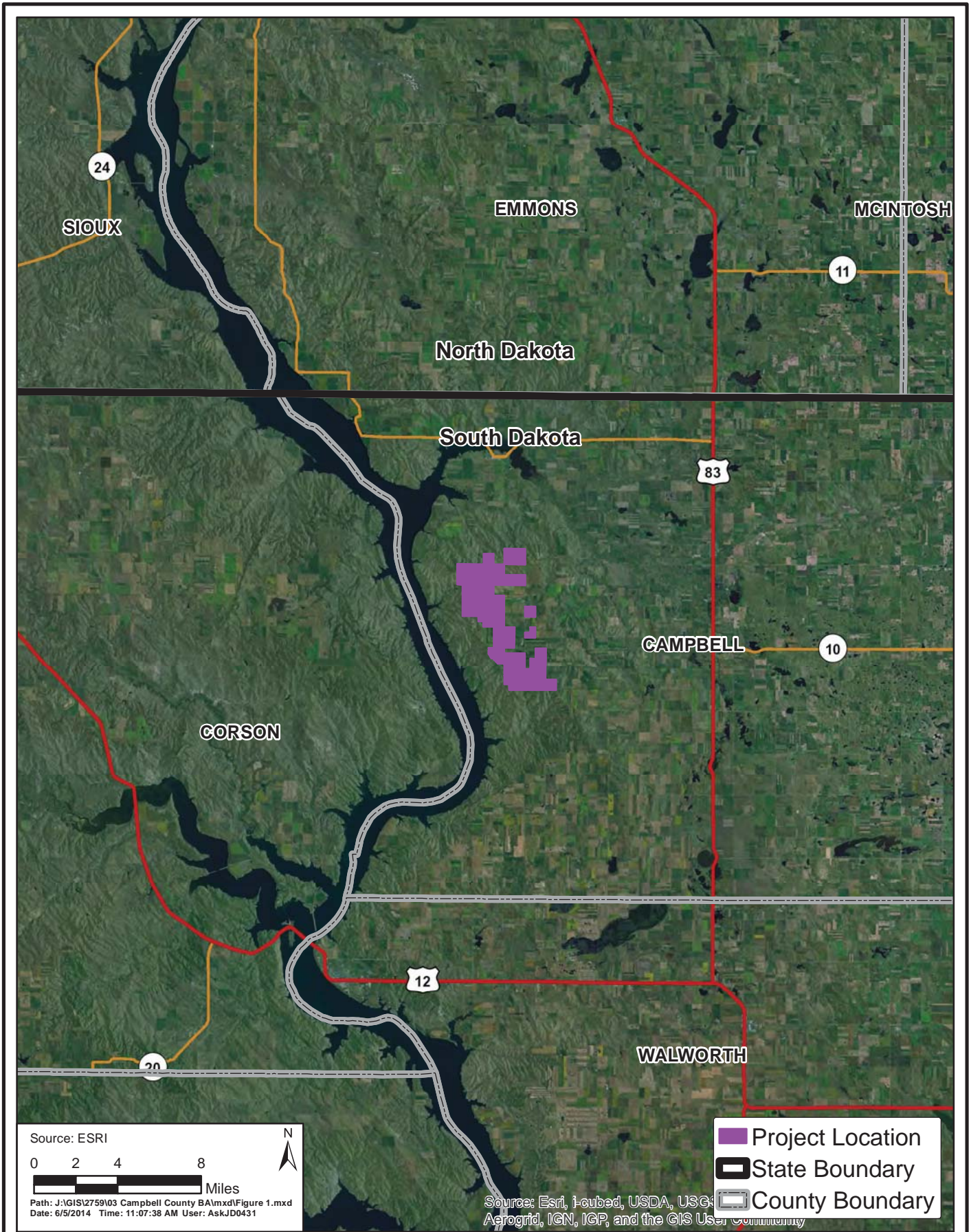
Date

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Figures



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Campbell County Wind Farm-Campbell County, South Dakota
Site Location Map



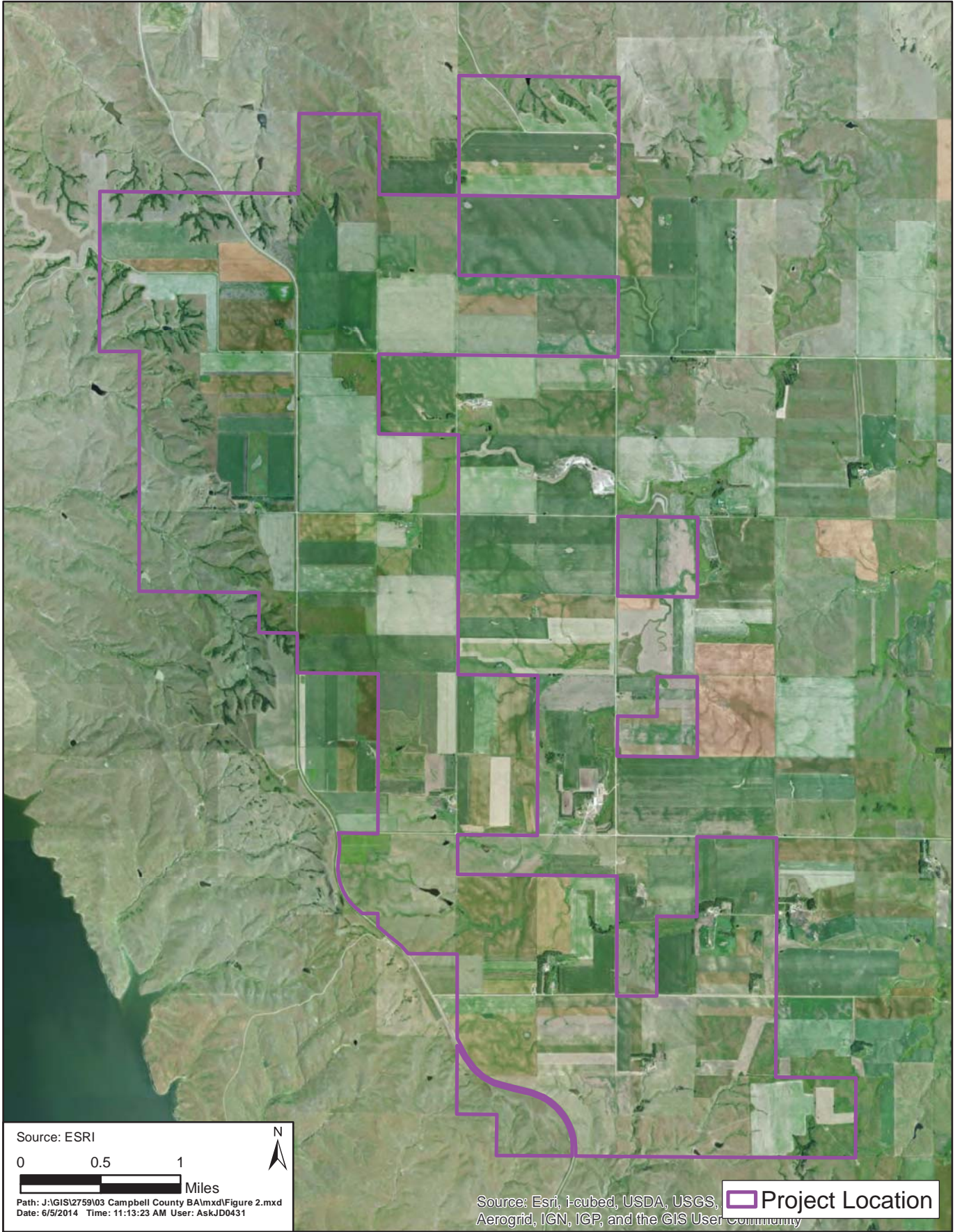
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Figure 1



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Campbell County Wind Farm-Campbell County, South Dakota
Site Detail Map



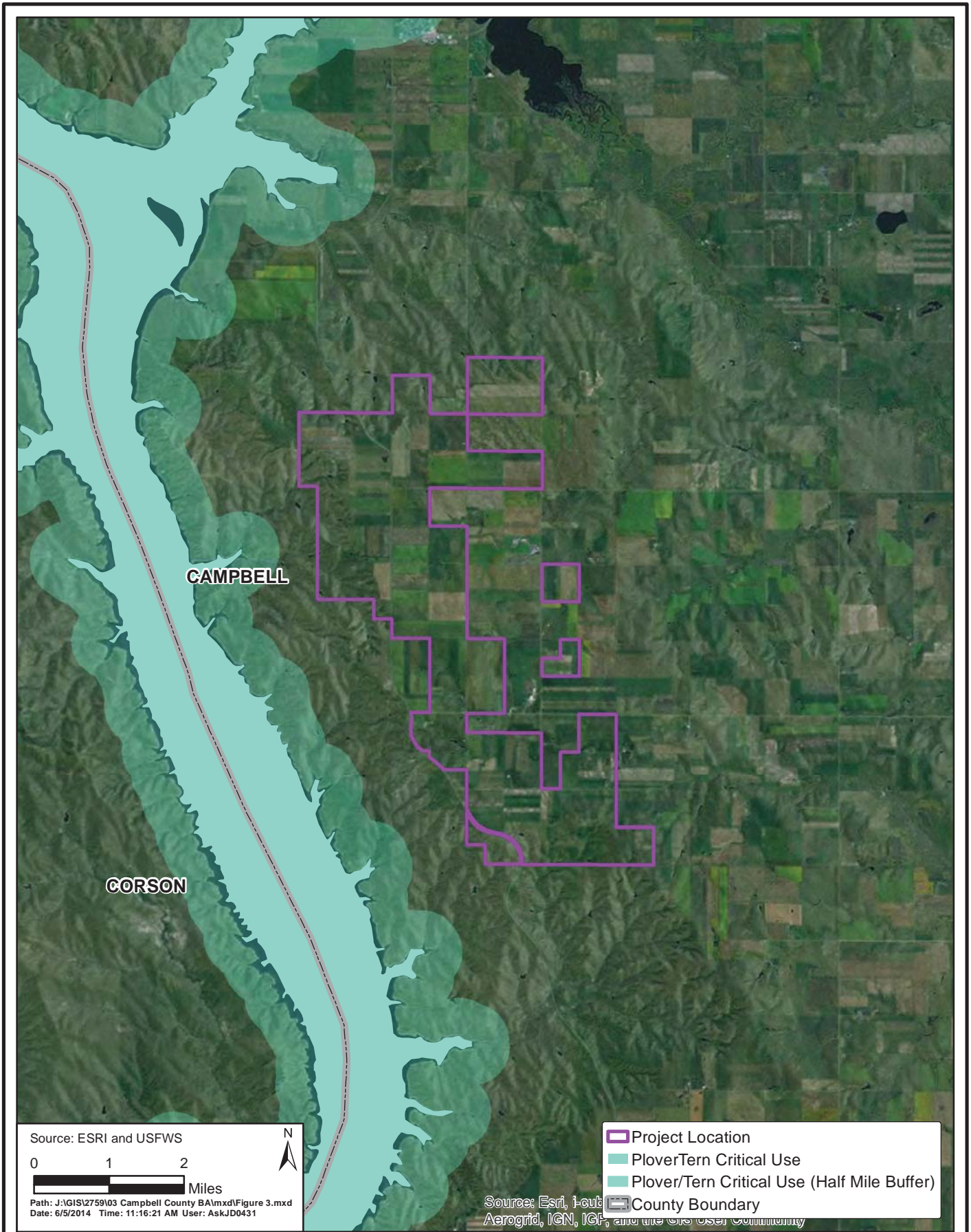
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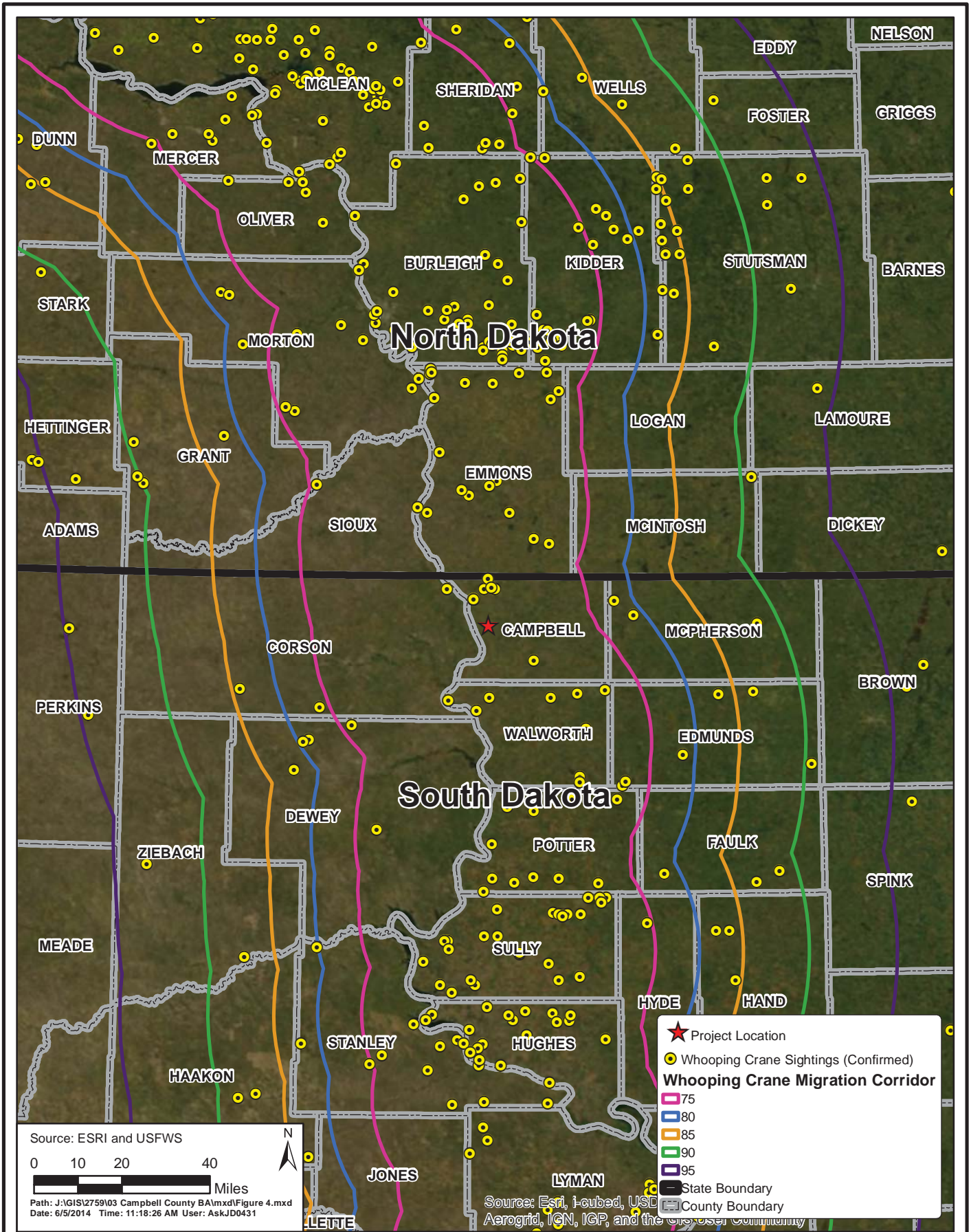
Figure 2



Fagen Engineering, LLC
 Campbell County Wind Farm-Campbell County, South Dakota
 USFWS Plover/Tern Critical Habitat


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 Figure 3



Fagen Engineering, LLC

Campbell County Wind Farm-Campbell County, South Dakota
Whooping Crane Migration Corridor



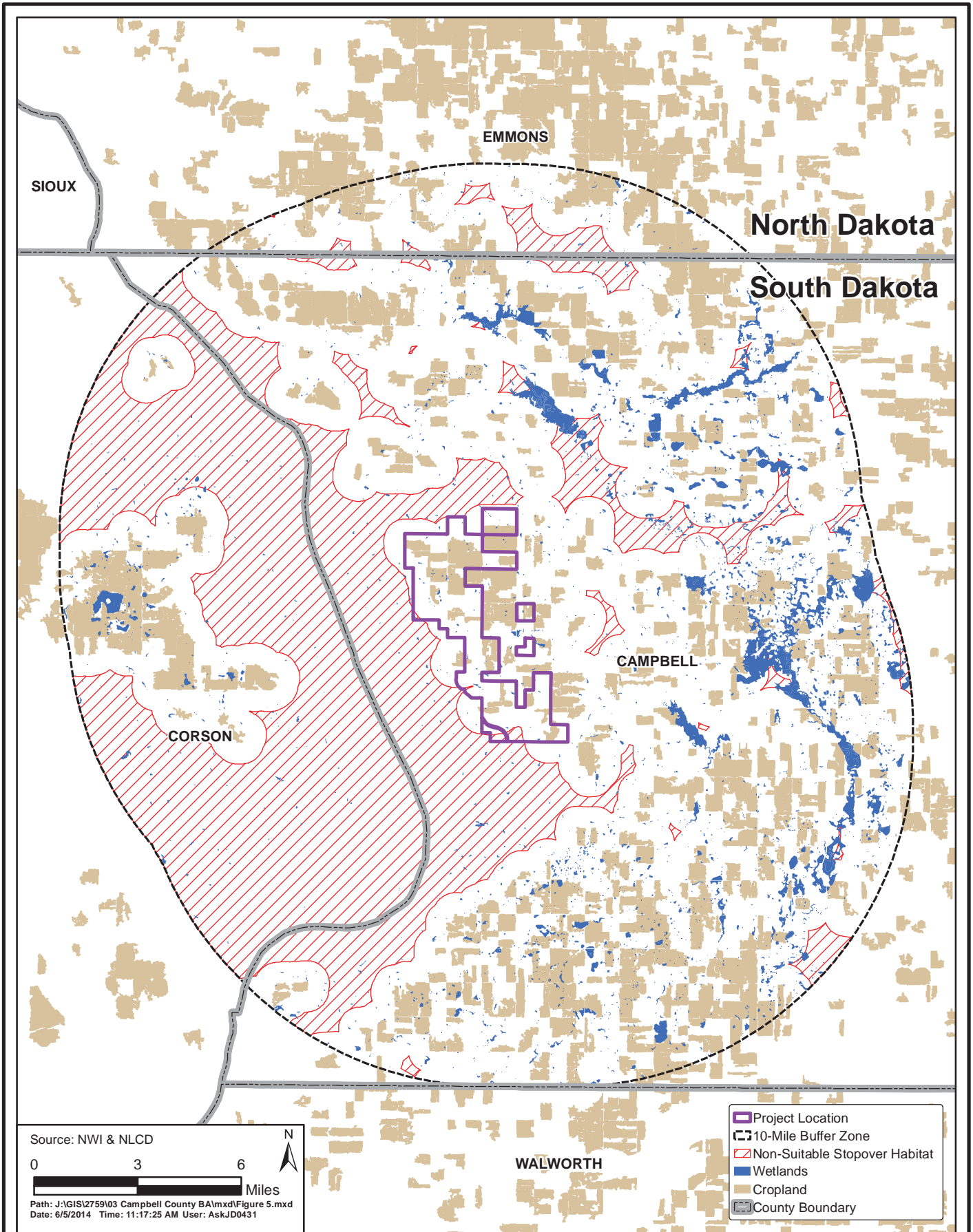
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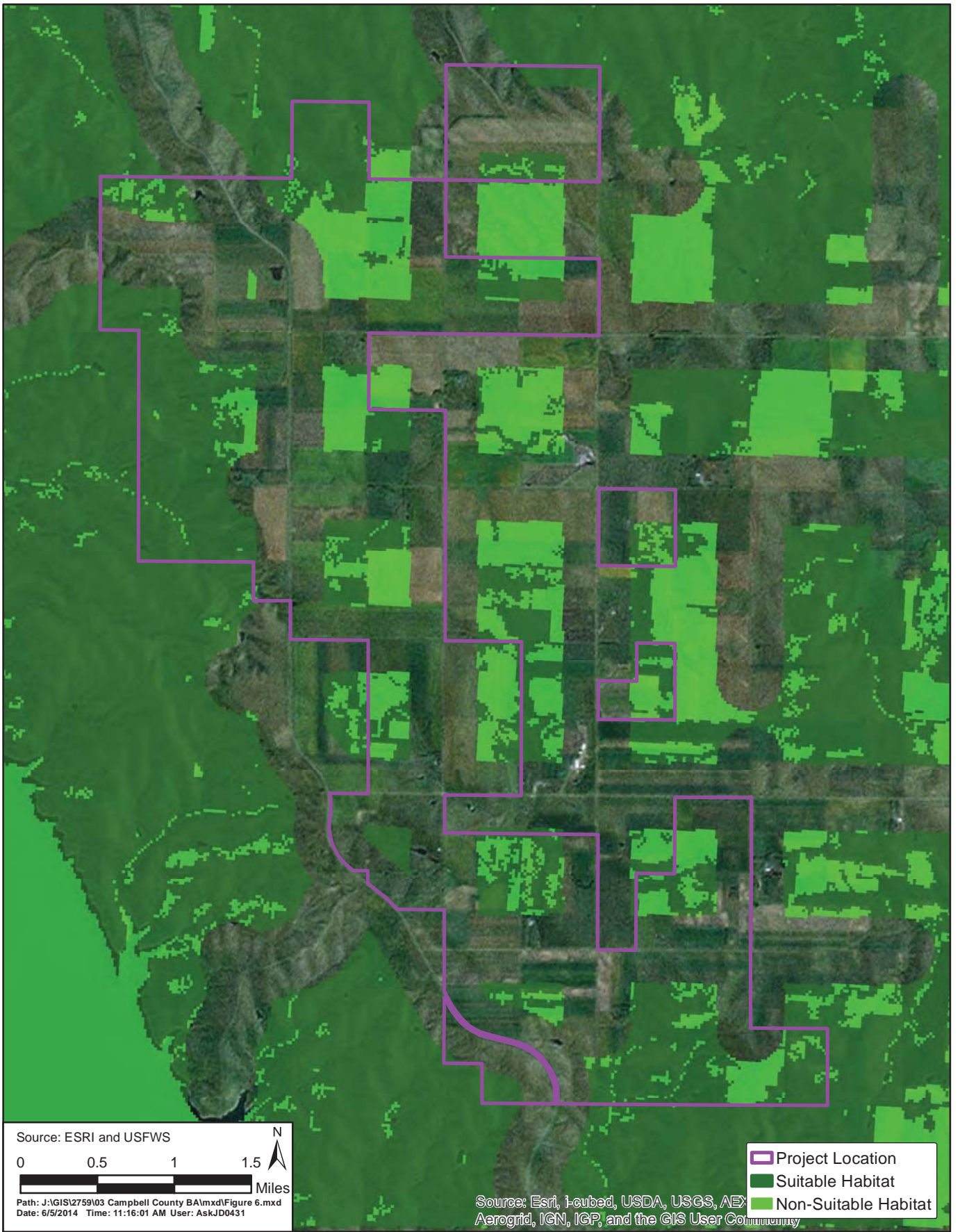
Figure 4



Fagen Engineering, LLC
 Campbell County Wind Farm-Campbell County, South Dakota
 Project Area and 10-Mile Buffer Wetland-Agricultural Matrix


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Figure 5



Fagen Engineering, LLC

Campbell County Wind Farm-Campbell County, South Dakota
Potential USFWS Sprague's Pipit Habitat



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Figure 6





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408



September 6, 2013

David Plagge, Environmental Coordinator
Fagen Engineering, LLC
501 West Highway 212
Granite Falls, Minnesota 56241

Re: Campbell County Wind Farm, South
Dakota

Dear Mr. Plagge:

This letter is in response to your request dated September 4, 2013, for environmental comments regarding the above referenced project involving the establishment by Dakota Plains Energy of a 99 MW wind farm with 49 turbines adjacent to the Missouri River. According to maps included with your proposal, the project is situated in various sections within Townships 126 and 127 North, Range 78 West, Campbell County, South Dakota.

Herein we provide information regarding important wildlife habitats and U.S. Fish and Wildlife Service (Service) trust resources, including federally listed species, eagles, birds of conservation concern, and other migratory birds that may occur on the project area. We have included recommended measures to be applied to various components of a wind farm, including meteorological towers, power lines, and the turbines themselves in order to minimize impacts to Service trust resources and to assist the development company in achieving compliance with Federal laws.

Wind Turbine Guidelines

Among the Service's primary concerns regarding wind turbines are avian collision mortality and the loss of habitat/habitat avoidance behaviors by wildlife. While there is still much to be learned regarding wind turbine-wildlife interactions, we do know that wind turbines can have adverse impacts on some species. Turbine location, spacing, aspect, lighting, size, and design are all potential factors related to the risk posed to resident and migratory wildlife as are the types of surrounding habitats, their use by various species of wildlife, landscape features, prey base, migration corridors, and behavioral patterns. Direct collision mortality is a concern, as is loss of habitat caused by the footprint of the turbines and associated roads and structures along with impacts that can occur with encroachment of invasive weeds as a result of these disturbances. Recent studies of grassland nesting birds have shown a tendency for avoidance of areas immediately surrounding turbines, causing indirect habitat loss as well. Currently, perhaps the best means of avoiding impacts to

wildlife is to avoid placing wind farms within high wildlife use areas. Placement of turbines within existing cropland is recommended for this reason. The *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines* designed to help wind energy project developers avoid and minimize impacts of land-based wind projects on wildlife and their habitats are available online at: <http://www.fws.gov/windenergy/>. Some preconstruction wildlife survey information has already been collected and shared with our office. We request the results of any ongoing or future pre-/post-construction wildlife monitoring, including any incidental mortality detected. The Before-After-Control-Impact (BACI) method for avian studies is recommended and described further in the guidelines.

Threatened/Endangered Species

Your project proposal included a species list obtained from our website. That list is accurate and considered valid for 90 days. It includes the following threatened and endangered species:

<u>Species</u>	<u>Status</u>	<u>Expected Occurrence</u>
Least tern (<i>Sterna antillarum</i>)	Endangered	Migration, nesting
Piping plover (<i>Charadrius melodus</i>)	Threatened	Migration, nesting
Whooping crane (<i>Grus americana</i>)	Endangered	Migration
Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	Resident in Missouri River

Additionally, as noted in your letter, a candidate species may occur in the project area:

<u>Species</u>	<u>Status</u>	<u>Expected Occurrence</u>
Sprague's pipit (<i>Anthus Spragueii</i>)	Candidate	Possible breeding/migration

Your project proposal included a draft Biological Assessment (BA) developed by Wenck Associates, Inc. that contained determinations of effects to the above species. However, it is our understanding that the BA has not yet been shared with/adopted by the Western Area Power Administration (WAPA), the Federal nexus for this project. It is the responsibility of Federal agencies, or their designated representatives, to determine potential impacts to federally listed species under section 7 of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq. Thus, we anticipate future coordination via section 7 consultation with the WAPA regarding the impacts of this project; we are not providing a response to the determinations in the draft BA at this time.

Least terns and piping plovers use sparsely vegetated interchannel sandbars, islands, and shorelines for nesting, foraging, and brood-rearing. Breeding habitat exists adjacent to the proposed project area along the Missouri River, and Lake Pocasse located just northeast of the project site also provides habitat for these species. Thus, it may be possible for the birds to occur in the project area

as they navigate between these habitats. Additionally, since specific migration habits of the least tern and piping plover in South Dakota are not known, the birds may move through the project area as they fly to/from their breeding grounds during migration. The birds typically breed in South Dakota between the dates of May 1 and August 15.

The proposed Campbell County Wind facility is within the documented migration corridor of the Aransas/Wood Buffalo population of whooping cranes - the only self-sustaining migratory population of whooping cranes in existence (see enclosed map and associated required reading for map users). These birds migrate through South Dakota twice annually on their way to northern breeding grounds and southern wintering areas. They occupy numerous habitats such as cropland and pastures; wet meadows; shallow marshes; shallow portions of rivers, lakes, reservoirs, and stock ponds; and both freshwater and alkaline basins for feeding and loafing. Overnight roosting sites frequently require shallow water in which to stand and rest. The species is known to use Campbell County habitats during migration. Whooping cranes are large birds with low maneuverability. Line strike mortality is the greatest known threat to fledged whooping cranes; thus, new overhead power lines within the species' migration corridor pose a risk to the birds. We have enclosed our *Region 6 Guidance for Minimizing Effects from Power Line Projects Within the Whooping Crane Migration Corridor* which provide recommendations on means to reduce the overall risk of take of this species. While whooping crane interactions with wind turbines are not well known, the species has been documented to utilize habitats in the vicinity of wind turbines, and sandhill cranes (*Grus canadensis*), a surrogate species for the whooping crane, have been documented as colliding with wind turbines. Thus, whooping crane mortality via turbine strikes may pose a risk to the birds. Loss of stopover habitat in the migration corridor is another concern that may be realized if whooping cranes instead avoid the wind farm. Regarding project construction, any birds occurring in the area during these activities (spring and fall migration) may be subjected to disturbance which stresses them at critical times of the year and should be avoided. These issues should be addressed prior to wind farm development. Sightings of whooping cranes at any time should be reported to this office.

The pallid sturgeon is a resident of the Missouri River; we would not expect any impacts to the species as a result of the wind farm.

Sprague's pipit was determined to be a candidate species in September of 2010. As a candidate, the Sprague's pipit is not currently afforded Federal protection under the ESA. Its candidate status defines this bird as a species in decline that the Service believes needs to be listed as threatened or endangered, but listing is currently precluded by other priorities. Sprague's pipit is a grassland songbird currently common only in remnant large grassland patches in the northern mixed-grass native prairie of North America. In the United States, the species' breeding range includes north-central and eastern Montana, central and western North Dakota, and northwestern and north-central South Dakota. The Sprague's pipit is likely influenced by the size of grassland patches and the amount of grassland in the landscape. This species also negatively responds to shrub and tree densities, and it is likely that it exhibits negative responses to other vertical structures in their habitat (e.g., wind turbines, telecommunication towers, power line towers, etc.), although specific data are limited. Sprague's pipit is among the species named within the Service's 2008 Birds of Conservation Concern publication (see "Birds of Conservation Concern" below for the website to obtain the document). Birds of Conservation Concern are species which have been identified as in need of conservation efforts to stem population declines. Habitat loss, degradation, fragmentation, inappropriate management, nest predation and parasitism, energy development, climate change, and drought are threats that currently or potentially affect Sprague's pipit populations throughout its range. Management for this species consists of protecting, maintaining, and restoring mixed grass

prairie in suitably large blocks. To view the Sprague's Pipit (*Anthus spragueii*) Conservation Plan from which the above information was obtained and for additional information, including the 12-month finding that established the Sprague's pipit as a candidate species, please access the following website online at: <http://www.fws.gov/mountain-prairie/species/birds/spraguespipit/>.

Bald Eagles

Bald eagles (*Haliaeetus leucocephalus*) occur throughout South Dakota in all seasons, and new nests are appearing each year. While ESA protection for the bald eagle has been removed, the species will continue to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). These laws protect eagles from a variety of harmful actions and impacts. Our agency has developed guidance for the public regarding means to avoid take of the eagle under these laws. The *National Bald Eagle Management Guidelines* are available online at: <http://www.fws.gov/migratorybirds/baldeagle.htm>. We recommend reviewing these guidelines as they advise of circumstances where these laws may apply and assist in avoiding potential violations on future projects. Additionally, permit regulations have been published for eagles. These regulations may be found in the Federal Register (Volume 74, No. 175, Friday, September 11, 2009) online at: <http://www.gpoaccess.gov/fr/index.html>. *Eagle Conservation Plan Guidance* has also been developed by the Service. This document provides interpretive guidance in applying the regulatory permit standards as specified by the BGEPA and other Federal laws. It is available online at: <http://www.fws.gov/windenergy/PDF/Eagle%20Conservation%20Plan%20Guidance-Module%201.pdf>. Please note that bald eagles have been documented to nest at Lake Pocasse, within three to four miles of the proposed Campbell County Wind Farm.

Birds of Conservation Concern

The Migratory Birds Division of the Service has published *Birds of Conservation Concern (BCC) 2008*, which may be found online at: <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>. This document is intended to identify species in need of coordinated and proactive conservation efforts among State, Federal, and private entities, with the goals of precluding future evaluation of these species for ESA protections and promoting/conserving long-term avian diversity. In accordance with Executive Order 13186 regarding migratory bird protection, we recommend avoidance, minimization, and habitat offsets to reduce the impacts to species protected by the MBTA. Compliance with this law may be partially addressed in a Bird and Bat Conservation Strategy (see Chapter 9 of the Service's Land-based Wind Energy Guidelines); however, a separate mitigation plan that specifically addresses direct and indirect take of birds during and after construction is also recommended. Primary threats to many grassland species that occur in South Dakota are habitat loss and fragmentation. Grassland areas within the boundaries of the Campbell County Wind Farm may harbor some species identified in the 2008 BCC document. Placement of facilities within intact native grasslands should be avoided. If it must occur, we strongly recommend development of mitigative/offsetting measures for this habitat and its associated wildlife. These measures may include, but not be limited to, restoration of degraded grassland habitats or purchase of easements or fee title lands.

Wetlands

According to National Wetlands Inventory maps (available online at: <http://wetlands.fws.gov/>), wetlands exist within the proposed project area. If a project may impact wetlands or other important fish and wildlife habitats, the Service, in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible; then minimization of any adverse impacts; and finally, replacement of any lost acres; in that order. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review. The Service recommends these actions regardless of jurisdiction determinations by the U.S. Army Corps of Engineers under the Clean Water Act.

Meteorological Towers

Meteorological towers constructed in association with wind turbines are often similar in design to typical communication towers: tall, lighted, lattice structured, and guyed. These types of towers can be problematic for birds, particularly during inclement weather, as they enter the lighted area, become reluctant to leave it, and suffer mortality as they circle the structure and collide with the guy wires or the lattice tower itself. It is our understanding that meteorological towers currently exist at the site. We recommend application of the guidance set forth in *U.S. Fish and Wildlife Service Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning*, found online at: <http://www.fws.gov/habitatconservation/communicationtowers.html>, to minimize the threat of avian mortality at these towers and any future towers at the site. Monitoring at these towers would provide insight to the effectiveness of the minimization measures. We request the results of any wildlife monitoring and any data obtained regarding wildlife mortality at towers associated with this project.

In order to obtain information on the usefulness of the communications tower guidelines in preventing birds strikes and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of any towers associated with the wind turbine project and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures cannot be implemented, please explain why they were not feasible. A Tower Site Evaluation Form is also available via the above communication tower website online at: <http://www.fws.gov/habitatconservation/communicationtowers.html>. Please complete this form and forward it to our office.

Power Lines

The construction of additional overhead power lines associated with wind farms creates the threat of avian electrocution, particularly for raptors. Thousands of these birds, including endangered species, are killed annually as they attempt to utilize overhead power lines as nesting, hunting, resting, feeding, and sunning sites. The Service recommends the installation of underground, rather than overhead, power lines whenever possible/appropriate to minimize environmental disturbances. For all new overhead lines or modernization of old overhead lines, we recommend incorporating measures to prevent avian electrocutions. The publication entitled *Suggested Practices for Avian Protection on Power Lines - The State of the Art in 2006* has many good suggestions, including pole

extensions, modified positioning of live phase conductors and ground wires, placement of perch guards and elevated perches, elimination of cross arms, use of wood (not metal) braces, and installation of various insulating covers. You may obtain this publication by contacting the Edison Electric Institute via their website online at: www.eei.org or by calling 1-800-334-5453.

Please note that utilizing just one of the "Suggested Practices . . ." methods may not entirely remove the threat of electrocution to raptors. In fact, improper use of some methods may increase electrocution mortality. Perch guards, for example, may be only partially effective as some birds may still attempt to perch on structures with misplaced or small-sized guards and suffer electrocution as they approach too close to conducting materials. Among the most dangerous structures to raptors are poles that are located at a crossing of two or more lines, exposed above-ground transformers, or dead end poles. Numerous hot and neutral lines at these sites, combined with inadequate spacing between conductors, increase the threat of raptor electrocutions. Perch guards placed on other poles have, in some cases, served to actually shift birds to these more dangerous sites, increasing the number of mortalities. Thus, it may be necessary to utilize other methods or combine methods to achieve the best results. The same principles may be applied to substation structures.

Please also note that the spacing recommendation within the "Suggested Practices . . ." publication of at least 60 inches between conductors or features that cause grounding may not be protective of larger raptors such as eagles. This measure was based on the fact that the skin-to-skin contact distance on these birds (i.e., talon to beak, wrist to wrist, etc.) is less than 60 inches. However, an adult eagle's wingspan (distance between feather tips) may vary from 66 to 96 inches depending on the species (golden or bald) and gender of the bird. Unfortunately, wet feathers in contact with conductors and/or grounding connections can result in a lethal electrical surge. Thus, the focus of the above precautionary measures should be to a) provide more than 96 inches of spacing between conductors or grounding features, b) insulate exposed conducting features so that contact will not cause raptor electrocution, and/or c) prevent raptors from perching on the poles in the first place.

Additional information regarding simple, effective ways to prevent raptor electrocutions on power lines is available in video form. *Raptors at Risk* may be obtained by contacting EDM International, Inc. at 4001 Automation Way, Fort Collins, Colorado 80525-3479, Telephone No. (970) 204-4001, or by visiting their website online at: <http://www.edmlink.com/raptorvideo.htm>.

In addition to electrocution, overhead power lines also present the threat of avian line strike mortality. Particularly in situations where these lines are adjacent to wetlands or where waters exist on opposite sides of the lines, we recommend marking them in order to make them more visible to birds. For more information on bird strikes, please see *Reducing Avian Collisions with Power Lines; The State of the Art in 2012* which may be obtained by contacting the Edison Electric Institute online at: <http://www.eei.org/resourcesandmedia/products/Pages/reducingaviancollisions.aspx>. While marking of power lines reduces line strike mortality, it does not preclude it entirely. Thus, marking of additional, existing, overhead lines is recommended to further offset the potential for avian line strike mortality.

Migratory Bird Treaty Act

Although adherence to the Service's recommendations will provide some protection for migratory birds, implementation of these measures alone will not remove any liability should violations of the law occur. The MBTA prohibits the taking, killing, possession, and transportation (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by

regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during construction or operation of a wind energy facility even if all known reasonable and effective measures to protect birds 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 avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or Avian Protection Plans and to implement those measures prior to/during construction, operation, or similar activities.

Summary

The following items are pertinent to the proposed project, and we recommend addressing these issues if/when the project progresses:


- Wind turbines: *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines*
- Potential impacts to listed and candidate species:
 - Least tern
 - Piping plover
 - Pallid sturgeon
 - Whooping crane
 - Sprague's pipit
- Bald eagle impacts (MBTA and BGEPA):
 - Service's *National Bald Eagle Management Guidelines*
 - Service's *Eagle Conservation Plan Guidance*
- Migratory bird impacts (MBTA):
 - *Birds of Conservation Concern 2008*
 - Pre-/post-construction monitoring and mortality data
 - Mitigative/offsetting measures to be coordinated with and reported to the Service
- Wetland impacts: avoid, minimize, and mitigate
- Existing guidelines for various project components:
 - Meteorological towers: Service's *Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning* and the associated *Tower Site Evaluation Form*.

- Overhead power lines: Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and *Reducing Avian Collisions with Power Lines, the State of the Art in 2012*.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

We appreciate the opportunity to provide comments on this project. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 227.

Sincerely,

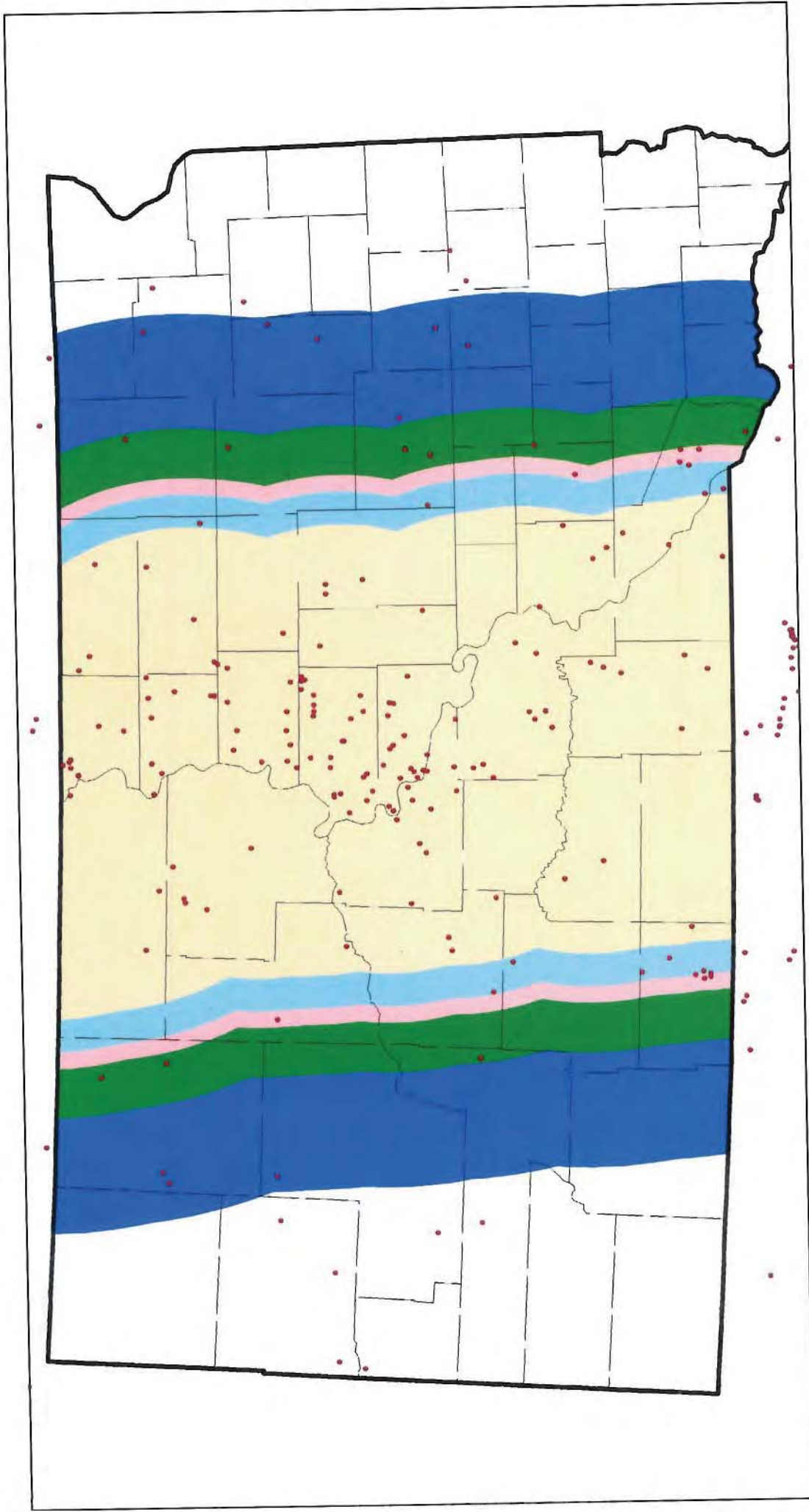

Acting Scott V. Larson
Field Supervisor
South Dakota Field Office

Enclosures

cc: WAPA; Billings, MT
(Attention: Matt Marsh)

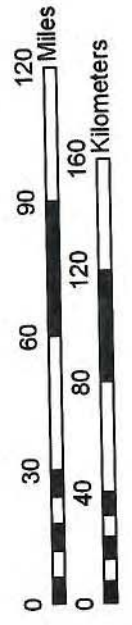


U.S. Fish & Wildlife Service
South Dakota Whooping Crane Migration Corridor Using State Sightings
Central Flyway of the United States



Legend

- Central Flyway Confirmed Sightings
- 75% (100mi Corridor)
- 80% (100 mi Corridor)
- 85% (100 mi Corridor)
- 90% (100 mi Corridor)
- 95% (100 mi Corridor)



Produced for Ecological Services
Grand Island, NE
Current to: 2008
Basemap (Date): South Dakota Counties
Meridian
File:

Required Reading for Users of the Whooping Crane Tracking Project Database

CWCTP-GIS data or derivatives thereof (e.g., shape files, jpegs) may not be distributed or posted on the Internet without inclusion of this explanatory document.

The Cooperative Whooping Crane Tracking Project (CWCTP) was initiated in 1975 to collect a variety of information on whooping crane migration through the U.S. portion of the Central Flyway. Since its inception in 1975, a network of Federal and State cooperating agencies has collected information on whooping crane stopovers and funneled it to the U.S. Fish and Wildlife Service (Service) Nebraska Field Office where a database of sighting information is maintained. The WCTP database includes a hardcopy file of whooping crane sighting reports and a digital database in various formats based on those sighting reports. A subset of the database along with sight evaluation (habitat) information collected between 1975 and 1999 was summarized by Austin and Richert (2001).*

In the Fall of 2007, the CWCTP database was converted to a GIS format (ArcGIS 9.2) to facilitate input, updates, and provide output options in a spatial context. During this process, inconsistencies between the digital database and sighting report forms were identified and corrected. Location information in various formats was derived from data in the corrected database, and new fields were added to the corrected database (e.g., latitude and longitude in decimal degrees, an accuracy field, and location comment field). The attached updated file contains observation data through the 2008 Spring migration and is referred to as the CWCTP-GIS (2008a).

The appropriate use of the CWCTP-GIS is constrained by limitations inherent in both the GIS technology and bias inherent in any database comprised of incidental observations. Without an understanding of the assumptions and limitations of the data, analyses and output from the spatial database can result in faulty conclusions. The following assumptions and characteristics of the database are crucial to interpreting output correctly. Other, unknown biases also may exist in the data.

- First and foremost, the database is comprised of incidental sightings of whooping cranes during migration. Whooping cranes are largely opportunistic in their use of stopover sites along the Central Flyway, and will use sites with available habitat when weather or diurnal conditions require a break in migration. Because much of the Central Flyway is sparsely populated, only a small percent of stopovers are observed, those observed may not be identified, those identified may not be reported, and those reported may not be confirmed (only confirmed sightings are included in the database). Based on the crane population and average flight distances, as little as 4 percent of crane stopovers are reported. *Therefore, absence of documented whooping crane use of a given area in the Central Flyway does NOT mean that whooping cranes do not use that area or that various projects in the vicinity will not potentially adversely affect the species.*
- In the database, the location of each sighting is based on the first observation of the crane group even though, in many cases, the group was observed at multiple locations in a local area. For this and other reasons described below, only broad-scale analyses of whooping crane occurrences are appropriate. GIS **cannot** be legitimately used with this database for measurements of distance of whooping crane groups from various habitat types or

geographic entities (i.e., using various available GIS data layers). In addition, point locations of whooping crane groups known to roost in various wetlands or rivers may not coincide with those wetlands. The user needs to refer to the attribute table or contact the Nebraska Field Office, USFWS, for more specific information on individual observations.

- Precision of the data: When a "Cadastral" location (Township, Range, Section, ¼-Section) was provided on the original sighting form, the geographic point representing that sighting was placed in the center of the indicated Section or ¼-Section and the latitude and longitude of that point were recorded in degrees, minutes, and seconds (DMS). These records are indicated by "Cadastral" in the accuracy field. When Cadastral information was lacking, DMS latitude and longitude were derived by adding seconds (00) to the degrees and minutes of latitude and longitude originally estimated and recorded on the observation form. These observations are identified by "Historic" in the accuracy field. GPS latitude and longitude were used when available, but when none of the above were reported, the point was placed based on text description of location (e.g., 3 miles N of Denton), and identified in the accuracy field with "Landmark". DMS latitude and longitude were converted to decimal degrees, which were used to populate the GIS data layer.
- Bias: Bias is an inherent characteristic of any data obtained through incidental sightings. That is, for the subset of crane use that is recorded, relatively more sightings are recorded in areas such as national wildlife refuges where knowledgeable observers are available to look for cranes and report their presence. Conversely, areas of high use may not be documented due to the absence of observers. However, use of areas such as national wildlife refuges is also determined to some extent by habitat management on the areas and availability of alternative habitat in the region. For these reasons, representations of the crane migration corridor based on percent of confirmed sightings should be interpreted conservatively, particularly in Oklahoma and Kansas where a high percent of sightings occur on a few national wildlife refuges. Whooping crane migration patterns and subsequent observations were also likely influenced by regional weather patterns such as wind and precipitation, as well as local farming practices which influence food availability. Factors such as these vary among regions and years and were not considered in this database.

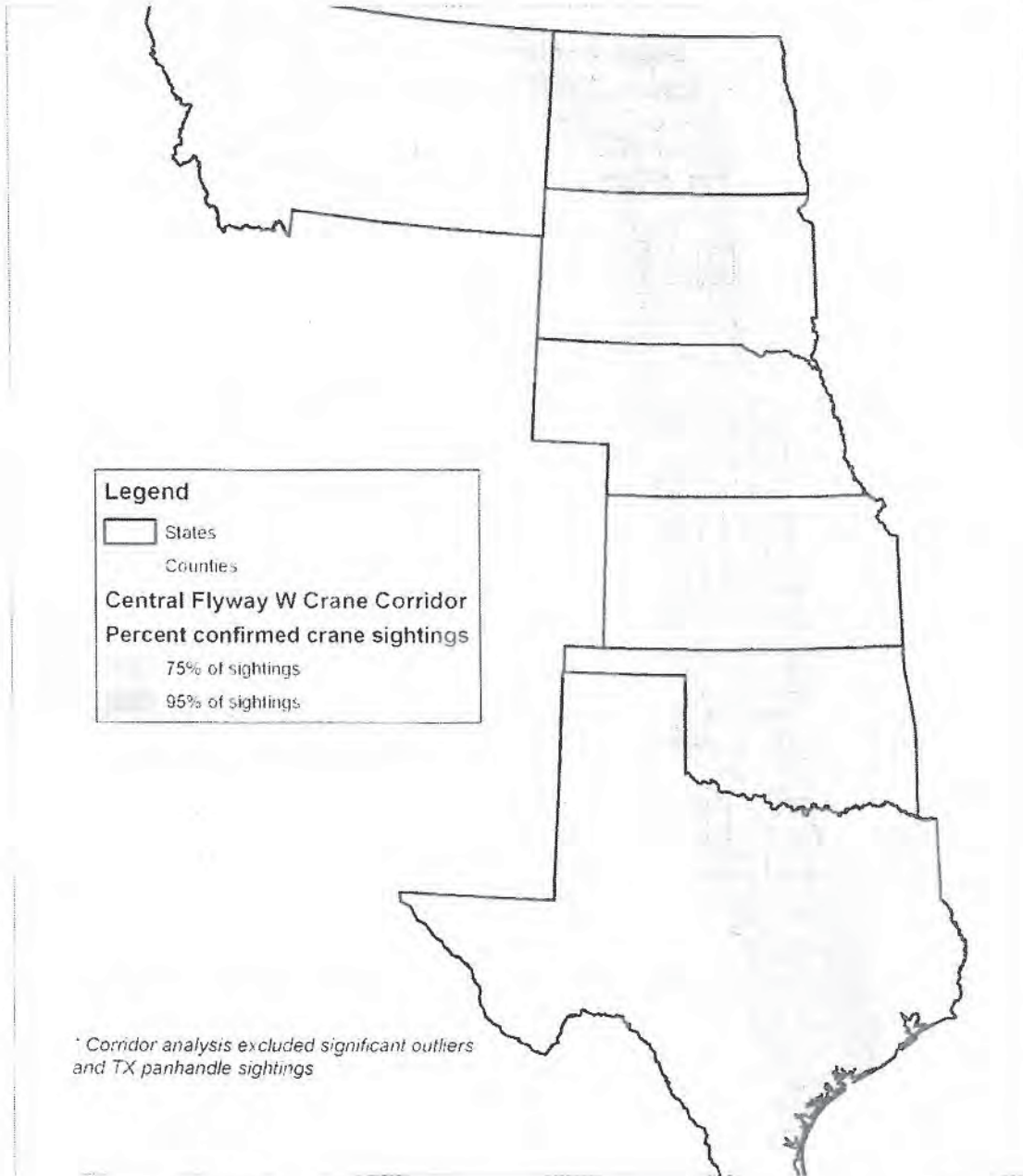
The CWCTP-GIS will be updated annually following the Fall migration and distributed to State cooperators and Fish and Wildlife Service Ecological Services Field Offices in the Central Flyway. Contact information for these offices can be found at <http://www.fws.gov>. Federal regulatory agencies and project proponents should contact the appropriate Fish and Wildlife Service for help in evaluating potential project impacts to the endangered whooping crane.

* Austin, E.A. and A.L. Richert. 2001. A comprehensive review of observational and site evaluation data of migrant whooping cranes in the United States, 1943-99. U.S. Geological Survey. Northern Prairie Wildlife Research Center, Jamestown, North Dakota, and State Museum, University of Nebraska, Lincoln, Nebraska. 157 pp.

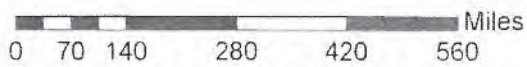


U.S. Fish & Wildlife Service

United States Central Flyway Whooping Crane Migration Corridor *



Produced for Ecological Services
Grand Island, NE
Current to 2008
Basemap (Date): U.S. Counties
Meridian
File



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United States Department of the Interior

FISH AND WILDLIFE SERVICE Mountain-Prairie Region



IN REPLY REFER TO:
FWS/R6
ES


MAILING ADDRESS:
P.O. Box 25486, DFC
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Boulevard
Lakewood, Colorado 80228-1807

FEB 04 2010

Memorandum

To: Field Office Project Leaders, Ecological Services, Region 6
Montana, North Dakota, South Dakota, Nebraska, Kansas

From: Assistant Regional Director, Ecological Services, Region 6 

Subject: Region 6 Guidance for Minimizing Effects from Power Line Projects Within the Whooping Crane Migration Corridor

This document is intended to assist Region 6 Ecological Services (ES) biologists in power line (including generation lines, transmission lines, distribution lines, etc.) project evaluation within the whooping crane migration corridor. The guidance contained herein also may be useful in planning by Federal action agencies, consultants, companies, and organizations concerned with impacts to avian resources, such as the Avian Power Line Interaction Committee (APLIC). We encourage action agencies and project proponents to coordinate with their local ES field office early in project development to implement this guidance.

The guidance includes general considerations that may apply to most, but not every, situation within the whooping crane migratory corridor. Additional conservation measures may be considered and/or discretion may be applied by the appropriate ES field office, as applicable. We believe that in most cases the following measures, if implemented and maintained, could reduce the potential effects to the whooping crane to an insignificant and/or discountable level. Where a Federal nexus is lacking, we believe that following these recommendations would reduce the likelihood of a whooping crane being taken and resulting in a violation of Endangered Species Act (ESA) section 9. If non-Federal actions cannot avoid the potential for incidental take, the local ES field office should encourage project proponents to develop a Habitat Conservation Plan and apply for a permit pursuant to ESA section 10(a)(1)(B).

Finally, although this guidance is specific to impacts of power line projects to the whooping crane within the migration corridor, we acknowledge that these guidelines also may benefit other listed and migratory birds.

If you have any questions, please contact Sarena Selbo, Section 7 Coordinator, at (303) 236-4046.

Region 6 Guidance for Minimizing Effects from Power Line Projects Within the Whooping Crane Migration Corridor

- 1) Project proponents should avoid construction of overhead power lines within 5.0 miles of designated critical habitat and documented high use areas (these locations can be obtained from the local ES field office).
- 2) To the greatest extent possible, project proponents should bury all new power lines, especially those within 1.0 mile of potentially suitable habitat¹.
- 3) If it is not economically or technically feasible to bury lines, then we recommend the following conservation measures be implemented:
 - a) Within the 95-percent sighting corridor (see attached map)
 - i) Project proponents should mark² new lines within 1.0 mile of potentially suitable habitat and an equal amount of existing line within 1.0 mile of potentially suitable habitat (preferably within the 75-percent corridor, but at a minimum within the 95-percent corridor) according to the U.S. Fish and Wildlife Service (USFWS) recommendations described in APLIC 1994 (or newer version as updated).
 - ii) Project proponents should mark replacement or upgraded lines within 1.0 mile of potentially suitable habitat according to the USFWS recommendations described in APLIC 1994 (or newer version as updated).
 - b) Outside the 95-percent sighting corridor within a State's borders
Project proponents should mark new lines within 1.0 mile of potentially suitable habitat at the discretion of the local ES field office, based on the biological needs of the whooping crane.
 - c) Develop compliance monitoring plans
Field offices should request written confirmation from the project proponent that power lines have been or will be marked and maintained (i.e., did the lines recommended for marking actually get marked? Are the markers being maintained in working condition?)

¹ Potentially suitable migratory stop over habitat for whooping cranes includes wetlands with areas of shallow water without visual obstructions (i.e., high or dense vegetation) (Austin & Richert 2001; Johns et al. 1997; Lingle et al. 1991; Howe 1987) and submerged sandbars in wide, unobstructed river channels that are isolated from human disturbance (Armbruster 1990). Roosting wetlands are often located within 1 mile of grain fields. As this is a broad definition, ES field office biologists should assist action agencies/applicants/companies in determining what constitutes potentially suitable habitat at the local level.

² Power lines are cited as the single greatest threat of mortality to fledged whooping cranes. Studies have shown that marking power lines reduces the risk of a line strike by 50 to 80 percent (Yee 2008; Brown & Drewien 1995; Morkill & Anderson 1991). Marking new lines and an equal length of existing line in the migration corridor maintains the baseline condition from this threat.



Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

27 August 2013

Dave Plagge, Environmental Coordinator
180 8th Avenue
Granite Falls, MN 56241

RE: Environmental comments for proposed Campbell County wind farm

Dear Dave Plagge:

This is in response to your request dated 25 July 2013 for environmental comments regarding the proposed Campbell County wind farm and its relevance to SD listed species of concern.

The proposed siting and operation of a wind power project has potential to directly and indirectly impact area wildlife. This may occur by altering important and declining habitats and influencing both breeding and movement behavior of wildlife and/or by killing bats and birds through wind turbine and power line strikes. The South Dakota Game, Fish and Parks (SDGFP), in coordination with the South Dakota Bat Working Group (SDBWG), has developed Siting Guidelines for Wind Power Projects in South Dakota. This document addresses many of the environmental concerns involved with siting wind power projects in South Dakota and may be found on the web (<http://gfp.sd.gov/wildlife/docs/wind-power-siting-guidelines.pdf>).

While we applaud efforts to provide renewable energy sources, we provide the following information on wildlife habitats and associated species that contribute to South Dakota's natural heritage and that may be impacted by the Campbell County wind farm. In addition, we provide recommendations on ways to lessen impacts and provide contact information to pursue additional needed information. Part of responsible siting includes conducting appropriately-timed pre-construction wildlife surveys to help assess any potential impacts to wildlife followed by post-construction studies to evaluate those predictions. If major impacts are predicted, we recommend avoidance. If minor impacts are anticipated, we recommend mitigation to lessen these impacts. Our agency respectfully requests a written summary of these surveys.

HABITAT

Grasslands

Native, untilled grasslands have decreased at an alarming rate. Remnant prairie areas have high conservation value, especially those that contain a high diversity of both plant and animal species with non-native, invasive plant species being rare or absent. The proposed project area should be surveyed for high quality untilled tracts of native

prairie. Every effort should be made to avoid placement of turbines and roads in high quality, untilled native prairie. Emphasis should be placed on siting turbines in areas already disturbed by cultivation. Mitigating impacted high quality native prairie should be considered.

There is also conservation value in large contiguous blocks of grassland, regardless of quality, current management or cropping history. This includes rangeland, hayland, pasture and undisturbed areas (e.g. Conservation Reserve Program lands; CRP). Large, contiguous grasslands occur along the northern, western and southern edge of the proposed project area. Some grassland wildlife species have been shown to be sensitive to the loss degradation, and fragmentation of native prairie and other grassland types. Those that are sensitive to habitat fragmentation means that the separation of habitat into smaller blocks (by roads or vertical structures) reduces habitat quality in that a species may be affected by lower survival or reproduction rates and/or decreased distribution or use of an area.

To reduce grassland degradation and fragmentation, place turbines and roads in areas already disturbed by cultivation, limit the amount of ground disturbance as much as possible by limiting the length and width of both temporary and permanent access roads. Use native seed sources to stabilize any soil disturbance to reduce non-native, invasive plant species encroachment. Ground disturbance and increased road access increases the opportunity for introduction and establishment of non-native, invasive plant species and can also increase human disturbance to wildlife. Pesticide used to control non-native, invasive plant species can negatively impact rare prairie invertebrates.

The Natural Resource Conservation Service Plant Materials Center in Bismarck, ND may serve as a good source of information on native plantings. Additional information on sources of native seed can be found at the following links:

- Conservation Seed/Plant Vendors List
 - <http://plant-materials.nrcs.usda.gov/pubs/ndpmcmt8152.pdf>
- Prairie Landscaping Seed/Plant Vendors List
 - <http://plant-materials.nrcs.usda.gov/pubs/ndpmcmt8151.pdf>
- Origins of Native Grass and Forb Releases
 - <http://www.plant-materials.nrcs.usda.gov/pubs/ndpmctn6786.pdf>

Public Land

Extensive public lands owned by the SDGFP and US Army Corp of Engineers border the Missouri River. Placement of public lands is often done so in areas with existing and potential wildlife habitat. Management of these lands is for wildlife and conducted in the public interest. Wildlife that use these areas may be affected by the placement of a wind power project in the area. The location of these and other public lands can be found on line at <http://gfp.sd.gov/images/WebMaps/Viewer/WILMA/> .

WILDLIFE

Grassland Birds

In North America, grassland birds have experienced consistent and long term declines (Peterjohn and Sauer 1999). Placement of a wind farm in the proposed project area may reduce habitat suitability for grassland birds (increase habitat fragmentation and invasive species) and modify behavior (e.g. avoidance). Some grassland bird species have been shown to favor large grassland patches or are sensitive to habitat fragmentation.

Two grassland bird species of particular management interest to SDGFP include the Greater Prairie-chicken and Sharp-tailed Grouse both of which require large tracts of open, contiguous grassland. The Greater Prairie-chicken prefers tall- to mixed-grass prairie. Breeding behavior peaks on leks primarily between late-March through April. Nesting occurs in mid-May to June. Leks are located on barren areas or on areas with minimal cover. This species nests in grasslands (prairies, pastures, hayfields) approximately 2 miles from a lek site. Loss and fragmentation of tall-grass prairie are considered reasons for population declines.

The Sharp-tailed Grouse prefers grassland habitat (mid- to tall-grasses) with brushy draws and thickets. The peak of courtship activity on communal display grounds (leks) occurs between late-March through April. Nesting also begins during this time. Leks are located on hilltops or other elevated sites with minimal vegetation. Nest sites are found within approximately 1 mile of the lek. Nests typically hatch from the last week in May through the first week in June. Degradation of native grasslands, reduction of nesting and brood rearing cover, and variable climatic factors are limiting factors for this species.

We recommend that properly timed, species-appropriate surveys for breeding grassland birds be conducted pre-and post- construction. Many privately-owned areas in South Dakota have not been surveyed for grassland songbirds or prairie grouse. Grassland songbird surveys are best conducted in June, although mid-May through early July is acceptable. Breeding ground (lek) surveys for prairie grouse species should be conducted in the spring (late March through April). If a lek is present, we recommend a minimum one-mile buffer be maintained between the lek and structures. We also recommend that a timing restriction on construction activity be adhered to within a two mile buffer of leks. This means that construction activity would not occur during a three hour period starting at sunrise from 1 March through 30 June. This is to avoid disturbance to birds attending a lek. Post-construction surveys monitoring lek presence and numbers of grouse attending each lek should be conducted after the project has been built.

Northern Prairie Wildlife Research Center, a part of the US Geological Survey is conducting research evaluating the influence of wind generators on breeding grassland bird density and species composition in the Dakotas. Please contact Jill Shaffer (701-253-5547 or jshaffer@usgs.gov) for the most up-to-date information and results from this effort.

Bats

Thirteen species of bats are currently known to be found in South Dakota, some of which are summer residents, year-round residents, or migratory. Construction of a wind farm may interfere with daily and seasonal bat movements, including direct mortality. South Dakota Department of Game, Fish and Parks in cooperation with the South Dakota Bat Working Group (SDBWG), developed the *South Dakota Bat Management Plan* specific to bats and their habitats in South Dakota (<http://gfp.sd.gov/wildlife/management/plans/bat-management-plan>). Please review this document for additional species-specific information.

Because of limited, project-specific data we suggest pre-construction surveys of the area for potential bat habitat and species. Pre-construction surveys should establish vertical arrays of bat detectors that encompass the rotor swept area (Kunz et al. 2007). Surveys for species should be conducted for at least one full year, preferably two, before construction with an emphasis on the spring and fall migration seasons. If using acoustic detectors, surveys should last for more than three nights. This amount of effort is not adequate to conclude that bats are absent from an area and that the site is appropriate for siting a wind farm (Kunz et al 2007).

Raptors

Improperly sighted wind farms are known to cause significant mortality to raptors. Raptors known to breed in the area include: Considering the soaring behavior of raptors, placement of turbines in areas of elevation (e.g. ridges) should be avoided. Pre-construction surveys should be conducted for these high-raptor use areas as well as nest locations for these and other raptor species.

Bald Eagle

Our records indicate no nesting bald eagles within the proposed project area. However, one nest has been documented 2 miles to the north of the project boundary. In addition, other pair(s) may be nesting in the area without our knowledge. Migrant bald eagles also are possible in the spring and fall. Please know that the bald eagle is state protected as a threatened species. This species also is protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act which are both administered by the USFWS. As such, I recommend contacting the U.S. Fish and Wildlife (USFWS) Ecological Services Field Office in Pierre, SD for further information (605-224-8693 or southdakotafieldoffice@fws.gov).

Piping Plover and Least Tern

The piping plover is an uncommon migrant and summer resident found primarily along the Missouri River. The piping plover is protected as threatened under both state and federal laws. The plover prefers sandbar and shoreline habitat. This species consumes invertebrates. It arrives in April, with the peak breeding season in May and June. This species has been known to breed in Campbell County. It is considered a migrant in Campbell County, but limited information is known about how and where.

The least tern is an uncommon migrant and local summer resident found primarily along the Missouri and Cheyenne rivers. The least tern is protected as endangered under both state and federal laws. Similarly, the least tern is found on sandbars, beaches and islands. Small fish make up this species' prey base. Least terns begin arriving in South Dakota in mid-April to late-May with the peak of breeding in May and June. Least terns are colony nesters, often associated with piping plovers. Fall migration can extend until early September. The least tern is a documented breeder along the Missouri River in Campbell County.

We are concerned about the direct impacts a potential wind power project may have on both the piping plover and least tern. The federal Endangered Species Act is administered by the US Fish and Wildlife Service. As such, I recommend contacting the U.S. Fish and Wildlife (USFWS) Ecological Services Field Office in Pierre.

Whooping Crane

This proposed project location is within the primary migration route of the 'Aransas National Wildlife Refuge to Wood Buffalo National Park' population of whooping cranes. Several reports of migrating whooping cranes have been made from Campbell County, north of the proposed project area. Placement of turbines in this area could very likely increase the chances of wind turbine and power line strikes and electrocutions. We are concerned about the direct impacts a potential wind power project may have on this population of whooping cranes. The federal Endangered Species Act is administered by the US Fish and Wildlife Service. As such, I recommend contacting the U.S. Fish and Wildlife (USFWS) Ecological Services Field Office in Pierre, SD for further information (605-224-8693 or southdakotafieldoffice@fws.gov).

Bird strikes and electrocutions

Strikes with above ground power lines are a known cause of bird mortality (Erickson et al. 2005). New power lines should be buried. If this is not possible, placement of above-ground transmission lines should avoid spanning large wetlands nor should they be placed between wetlands or wetland complexes. We also recommend placing new transmission lines along existing corridors such as within existing disturbed areas such as road right-of-ways that do not currently intersect wetlands or run along narrow pieces of land between wetlands or wetland complexes.

Electrocution of birds that perch, roost, or nest on power lines continues to be a source of mortality especially for eagles, hawks, and owls ((APLIC) 2006). The Avian Power Line Interaction Committee (APLIC) has developed two documents that provide useful information on how to reduce power line strikes and electrocutions:

- *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and
- *Mitigating Bird Collisions with Power Lines*.

Both of these documents are available from the Edison Institute (<http://www.aplic.org>).

Wildlife surveys

At least two years of pre-construction surveys should be conducted to determine the species that comprise the wildlife community in the project area and to estimate wildlife populations. This baseline estimate should be used during recommended post-construction surveys to evaluate any potential impacts to wildlife species in the project area. Protocols should allow data to be comparable to data collected at other wind power project sites in the region. A repeat of these surveys should be done post-construction. Mortality surveys should also be conducted at least two years post-construction. Example survey protocols can be found in (Anderson et al. 1999), (Erickson et al. 2007), and (Kunz et al. 2007). Reports of surveys should be shared with our agency.

Please be aware that the American Wind and Wildlife Institute (<http://www.awwi.org/>) is working on an initiative to establish a data repository that would provide the opportunity to conduct landscape scale evaluations of wind energy effects on wildlife through the use of a nation-wide database. Participation in their Research Information System is encouraged.

PERMIT REQUIREMENTS

Please note that if survey and monitoring activities include live trapping or the collection of wildlife species, you must first obtain a collection permit from our agency. If these activities include bats, specific sampling and collection protocols must be followed for a collectors permit to be issued. More information can be found at the following websites:

- Scientific Collectors Permit
 - <https://gfp.sd.gov/licenses/other-permits/scientific-collectors.aspx>
- Bat Sampling and Collection Protocol Guidelines and Requirements
 - <https://gfp.sd.gov/wildlife/docs/bat-protocol.pdf>

If during your survey and monitoring activities you or your associates observe any of the animal or plant species monitored by the Natural Heritage Program, we request that reports of these observations be provided. A list of monitored species can be found at <http://gfp.sd.gov/wildlife/threatened-endangered>.

South Dakota codified law 34A-8-8 allows for only limited and specific authorized take of threatened and endangered species for scientific, zoological, or educational purposes. For more information, please visit <https://gfp.sd.gov/licenses/other-permits/endangered-species-permit.aspx>.

The South Dakota Public Utilities Commission (PUC) requires a siting permit for wind energy projects 100 MW and greater. Please contact the PUC by mail or phone at 500 E. Capitol Ave in Pierre, SD 57501-5070 or (605) 773-3201.

SUMMARY

As outlined above, our agency has concerns regarding direct and indirect impacts to wildlife and habitats in association with the siting of the proposed project. The Proposed Project Area may contain quality habitats with a variety of wildlife species important to

the natural heritage of South Dakota. If this proposed project is developed, I would recommend a site visit with a representative from our agency and the U.S. Fish and Wildlife Service to assist in siting turbine such that wildlife impacts are lessened.

The SDGFP appreciates the opportunity to provide comments. If you have any questions on the above comments, please feel free to contact me at 605-773-2742 or Silka.Kempema@state.sd.us.

Regards,



Silka L. F. Kempema
Terrestrial Wildlife Biologist

CC: SD Game, Fish and Parks, Pierre, SD (Attention Casey Mehls)
SD Game, Fish and Parks, Ft. Pierre, SD (Attention Nathan Baker)
U.S. Fish and Wildlife Service, Pierre, SD (Attention Natalie Gates)
U.S. Geological Survey, Jamestown, ND (Attention Jill Shaffer)

Literature Cited

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United States Department of Interior
Fish and Wildlife Service

Project name: Campbell County Wind

Official Species-list: *Campbell County Wind*

South Dakota Ecological Services Field Office

Following is an official U.S. Fish and Wildlife Service species-list from the South Dakota Ecological Services Field Office. The species-list identifies listed and proposed species and designated and proposed critical habitat that may be affected by the project "Campbell County Wind". You may use this list to meet the requirements of section 7(c) of the Endangered Species Act of 1973, as amended (ESA).

This species-list has been generated by the Service's on-line Information, Planning, and Conservation (IPaC) decision support system based on project type and location information you provided on May 9, 2012, 3:17 PM. This information is summarized below.

Please reference our tracking number, 06E14000-2012-SLI-0146, in future reference to this project to assist in expediting the process.

Newer information based on updated surveys, changes in the abundance and distribution of listed species, changed habitat conditions, or other factors could change this list. Please feel free to contact the office(s) identified below if you need more current information or assistance regarding the potential presence of federally proposed, listed, or candidate species, or proposed or designated critical habitat. Please note that under the ESA, a species-list is valid for 90 days. Therefore, the Service recommends that you visit the IPaC site at regular intervals during project planning and implementation for updates to species-lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive this list. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

This list below only addresses federally proposed, listed, or candidate species and federally designated critical habitat. Please contact the appropriate State agencies for information regarding State species of special designation. Also, please feel free to contact the office(s) identified below if you would like information on other important trust resources (such as migratory birds) in your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Campbell County Wind

This Species-list document is provided by:

SOUTH DAKOTA ECOLOGICAL SERVICES FIELD OFFICE
420 SOUTH GARFIELD AVENUE, SUITE 400
PIERRE, SD 57501
(605) 224-8693
<http://www.fws.gov/southdakotafieldoffice/>

TAILS consultation code: 06E14000-2012-SLI-0146

Project type: Power Generation

Project Description: 99 MW wind power generation project located south of Pollock and west of Herreid and Mound City in Campbell County, SD.



United States Department of Interior
Fish and Wildlife Service

Project name: Campbell County Wind

Project location map:



Project coordinates: MULTIPOLYGON (((-100.3183632 45.8256264, -100.3036003 45.8451958, -100.2191429 45.8482857, -100.1587181 45.8170433, -100.1456718 45.7373924, -100.2534752 45.7418556, -100.2967339 45.7621117, -100.3183632 45.8256264)))

Project counties: Campbell, SD



Endangered Species Act Species-list

Least tern (*Sterna antillarum*)

Population: interior pop.

Listing Status: Endangered

Pallid sturgeon (*Scaphirhynchus albus*)

Listing Status: Endangered

Piping Plover (*Charadrius melodus*)

Population: except Great Lakes watershed

Listing Status: Threatened

Sprague's Pipit (*Anthus spragueii*)

Listing Status: Candidate

Whooping crane (*Grus americana*)

Population: except where EXPN

Listing Status: Endangered



RE: Natural Heritage Data Request
Mehls, Casey to: 'Dave Plagge'

07/29/2013 11:56 AM

From: "Mehls, Casey" <Casey.Mehls@state.sd.us>

To: 'Dave Plagge' <DPlagge@fageneng.com>

History: This message has been replied to.

Hi Dave,

I actually just conducted a search, and there were no records of threatened, endangered or rare species in the Natural Heritage Database within 1 mile of your project boundary. There are nesting records of the endangered Interior least tern and threatened piping plover along the Missouri River in Campbell county, however your project area is located over 4 miles away from the nearest record. Whooping cranes have also been documented traveling throughout Campbell county during their spring and fall migration. The nearest documented sighting was approximately 3 miles from the project boundary, however their locations are unpredictable from year to year.

Please note that we do not conduct annual surveys for the plant and animal species that are tracked in the NHD, and the absence of a species does not preclude its presence from your proposed project area.

Please let me know if you would like any further information regarding the records I mentioned. Otherwise currently there will be no fee for this search.

Thanks,

~Casey

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

From: Dave Plagge [mailto:DPlagge@fageneng.com]

Sent: Monday, July 29, 2013 11:41 AM

To: Mehls, Casey

Subject: RE: Natural Heritage Data Request

Thanks, Casey.

I think that limiting the search to a 1 mile boundary around the project would work well for us.

Please include the rare species, also.

Both tabular and maps would be great.

Dave Plagge P
Environmental Coordinator
FAGEN ENGINEERING, LLC.
180 8TH Avenue
Granite Falls, MN 56241
320-564-4573 Main
320-564-2622 Direct/VM
320-564-4861 Fax

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From: "Mehls, Casey" <Casey.Mehls@state.sd.us>
To: 'Dave Plagge' <DPlagge@fageneng.com>
Date: 07/29/2013 11:37 AM
Subject: RE: Natural Heritage Data Request

Hi Dave,

I started your data request this morning and realized I have a couple more questions for you, sorry I forgot to mention these earlier.

I opened up your project boundary shapefile. I see you have requesting information for Campbell County, but I can also restrict the database search to only records either occurring within the project boundary or a defined distance away. Doing so would reduce your database search fees.

It looks like you also requested T&E species records. In addition to T&E, the Natural Heritage Database also tracks rare species that are not currently listed. Would you like me to include these records or have them filter out?

Finally, if you prefer I can provide you with both tabular and shapefile records if you like, or just a map if you prefer as listed on your request form.

Thanks,

~Casey

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

From: Dave Plagge [mailto:DPlagge@fageneng.com]
Sent: Thursday, July 25, 2013 10:00 AM
To: Mehls, Casey
Cc: silka.kempema@state.se.us
Subject: Natural Heritage Data Request

Hello. I have attached my completed Natural Heritage Data Request form, along with a .shp file of the boundary of Campbell County Wind Farm. Please let me know if this is not the correct way to submit this request, and I'll resubmit.

Thank you-

(See attached file: Completed Heritage Data Request.pdf)(See attached file: CCWF.zip)

Dave Plagge P
Environmental Coordinator
FAGEN ENGINEERING, LLC.

180 8TH Avenue
Granite Falls, MN 56241
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408



June 9, 2015

Matthew L. Marsh
Upper Great Plains Environmental Manager
Western Area Power Administration
P.O. Box 35800
Billings, Montana 59107-5800

Re: Campbell County Wind Project

Dear Mr. Marsh:

This letter is in response to your request dated May 2, 2015, for concurrence with the effects determinations in your Biological Assessment (BA) for the Campbell County Wind Project, a proposed 99-MW, 55-turbine wind energy facility on approximately 12.5 miles (8,000 acres) in Campbell County, South Dakota.

Your agency has indicated that Western's authority, and therefore section 7 responsibilities under the Endangered Species Act, are limited to the interconnection action for wind energy projects, including this one. Thus, should any take of federally listed species occur once this wind farm is completed, reinitiation of section 7 consultation will not be possible unless another federal agency or action is involved. As a result, we anticipate Campbell County Wind Farm, LLC, will be the long-term responsible party for ensuring the operation of this project is compliant with the Endangered Species Act. We have copied the developer on this letter to ensure awareness of this issue and reiterate that development of a Habitat Conservation Plan (HCP) is the current means by which non-federal entities may be permitted for take of listed species. Additional information regarding HCPs may be found on our website at: <http://www.fws.gov/endangered/what-we-do/hcp-overview.html>.

Your BA states that Campbell County Wind Farm, LLC, has agreed to comply with conservation measures developed under the Programmatic Wind Biological Assessment by Western Area Power Administration and the Refuges Division of the U.S. Fish and Wildlife Service, although this project will not be tiered to that programmatic. One of those measures is: "Do not site turbines, transmission lines, access roads, or other project facilities within 1 mi (1.6 km) of wetlands that provide suitable stopover habitat". Yet, the species does stopover in Campbell County during migration, some turbines planned for this project appear to be located nearer to wetlands than 1 mile, and as described in your BA the project area consists of 97.4% wetland-agricultural matrix that migrating whooping cranes often utilize. Whooping cranes can be opportunistic in their selection of stopover habitats and the project is near the center of the

cranes' migration corridor. Thus, it is not clear the project fully complies with this requirement of the programmatic in that regard.

However, the developer has committed to monitoring for whooping cranes each spring and fall, implementing immediate turbine shutdowns whenever whooping cranes are sighted within 2 miles of the project. The assumption therein is that staff conducting the monitoring will have the appropriate training and expertise to identify whooping cranes with working knowledge of their behavior, the number of observers will be adequate for full coverage of the project, mechanisms will be in place to ensure shutdowns occur promptly, and the timing of surveys will be appropriate to coincide with migration. We request that results of monitoring and shutdown efforts be submitted to this office after each migration season.

Note that all confirmed whooping crane migration sightings are collected by our US Fish and Wildlife Service Nebraska Ecological Services Office. Should any whooping cranes be sighted as a result of the Campbell County monitoring, please contact this office for a whooping crane migration reporting form and we will relay the information to our Nebraska counterparts.

It is our understanding that additional requirements to minimize impacts to Northern long-eared bats will be implemented at the Campbell County Wind Farm should the species be detected in the project area in the future, as stated in the BA. We request notification if this occurs, and confirmation that the increased cut-in speeds and blade feathering are subsequently implemented, as well as any other appropriate conservation measures.

Finally, we request reports and findings of post construction monitoring for bats and migratory birds. As with the whooping crane monitoring effort, the assumption is that such efforts are conducted in a manner and with appropriate staffing, training, timing, equipment and other considerations necessary to facilitate detections of bats and migratory birds.

Your agency has determined the project will not affect the pallid sturgeon (*Scaphirhynchus albus*), and may affect, but is not likely to adversely affect the interior least tern (*Sterna antillarum*), whooping crane (*Grus americana*), piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), northern long-eared bat (*Myotis septentrionalis*), and Sprague's pipit (*Anthus spragueii*) (a candidate species). The Service concurs with your conclusion that the described project will not adversely affect listed or candidate species. Currently there are no proposed species occurring in South Dakota.

If any take of federally proposed, listed, or candidate species should occur, notify this office immediately. We do not expect mortality of the least tern, piping plover, rufa red knot, or Sprague's pipit, primarily due to lack of suitable habitat within the project area, but in the event mortality of these species is detected at the Campbell County Wind Farm, additional coordination may be required for Endangered Species Act compliance.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service must be informed so that the above determinations can be reconsidered.

We appreciate the opportunity to provide comments on this project. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 227.

Sincerely,

A handwritten signature in blue ink that reads "Scott Larson". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Scott Larson
Field Supervisor
South Dakota Field Office

Cc:

Rob Johnson
Dakota Plains Energy, Inc.
Dakota Plains Real Estate & Development, Inc.
P.O. Box 737
Aberdeen, SD 57401

Mike Rutledge
Environmental Services Dept. Head
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