Appendix E. Species Consistency Evaluation Forms

*Programmatic Biological Assessment Project Consistency Evaluation Form**
Upper Great Plains Region Wind Energy Development Program

(for USFWS Internal Use Only)	*TAILS S7 Bundle #:*	
	Individual TAILS Log #:	

Project Proponent

Project Name:	North Bend Wind Project	Developer:	North Bend Wind Project, LLC
State:	South Dakota	City:	Houston
County:	Hyde and Hughes Counties	State:	Texas
Township, Range & Sections:	S2-11, 14-20, 30, T110N, R73W; S1,2,11-14, T110N, R73W S5-8,17-19,28-35, T111N, R73W; S1-6,8-26,34-36, T111N, R74W; S12, T111N, R75W; S30-31, T112N, R73W; S22,25-36, T112N, R74W		POC: Anthony Crutch Phone: (256) 303-5010

Federal Agency/Point of Contact

Fish & Wildlife Service Ecological Services Field Office		Western Area Power Administration	
City:	Pierre	City:	Billings
State:	South Dakota	State:	Montana
POC:	Natalie Gates	POC:	Tim Langer
Phone:	605-224-8693 Ext. 227	Phone:	720-962-7275

For actions involving USFWS Land interests:

					Y	N
USFWS Wetland Management District:	Huron					
City:	Huron	State:	South Dakota	USFWS Property Interest	☐	☒
POC:	Deborah Williams					
Phone:	605-352-5894			Grassland Easement Exchange	☐	☒

Project Description Overview with Best Estimates

Construction Initiation Date:	Q3 2022	Max. Turbine Ht:	500 ft	Project Area Size:	47,000 ac.
Construction Completion Date:	Q4 2023	Turbine Pad Size:	20' x 20'	Wind Reserve Area Size:	
Number Turbines:	71	Miles (km) of New Road:	35 miles (56.3 km)	Power Generating Initiation Date:	Q4 2023
Turbine Tower Height (ft/m):	89 m	Miles (km) Improved Road:	41.9 miles (67.4 km)	Project Termination Date:	Q4 2053
Turbine RSA:	13,668 sq m	Miles (km) Existing County Rd:	13.8 miles (22.2 km)		
Turbine Size (MW), Make & Model:	GE 2.82 MW				
Collector Lines from Turbine to Substation:		Miles Buried:	67.54 miles	Miles Overhead:	0.095 miles (500 feet)

To help demonstrate compliance with the BMPs, Species Specific Avoidance and Minimization Measures, a complete application must include maps of the project area and associated species/habitat/buffer zones. Maps attached Yes ☒ No ☐

Land Cover Types Affected

	Yes	No	Acres Private	State	Federal	Subtotal	% Total	Description/Comments
Native Grass	☒	☐	214.7	61.7	0	276.4	43.3	SDSU undisturbed grassland layer
Tame Grass	☒	☐	15.4	0.4	0	15.8	2.5	NLCD herbaceous layer minus SDSU undisturbed layer
Agricultural	☒	☐	314.7	4.4	0	319.1	50.0	NLCD cropland layer
Wetland	☒	☐	13.2	1.1	0	14.3	2.2	NWI data layer, riverine is included
Riparian	☐	☒	-	-	-	-	-	None identified; NWI data layer
Trees	☐	☒	-	-	0	-	-	None identified; NLCD
Other	☒	☐	10.8	1.2	0	12.0	1.9	Primarily NLCD development and barren lands categories
Total			568.9	68.8	0	637.6	100	Areas and totals rounded to nearest tenth

ESA Listed (L), Proposed (P) and Candidate (C) Species Affected (Check Boxes)

Plants	Invertebrates	Fish	Reptiles	Birds	Mammals
☐ EP Fringed Orchid (L)	☐ American Burying Beetle (L)	☐ Bull Trout (L)	☐ Eastern Massasauga (C)	☐ G. Sage Grouse (C)	☐ Black-footed Ferret (L)
☐ Mead's Milkweed (L)	☐ Dakota Skipper (L)	☒ Pallid Sturgeon (L)		☐ Int. Least Tern (L)	☐ Canada Lynx (L)
☐ Prairie Bush Clover (L)	☐ Higgins Eye (L)	☐ Topeka Shiner (L)		☒ Piping Plover (L)	☐ Gray Wolf (L)
☐ Ute Ladies'-Tresses (L)	☐ Poweshiek Skipperling (L)			☒ Rufa Red Knot (L)	☐ Grizzly Bear (L)
☐ WP Fringed Orchid (L)	☐ Salt Creek Tiger Beetle (L)			☐ Sprague's Pipit (C)	☐ Indiana Bat (L)
☐ Whitebark Pine (C)	☐ Scaleshell Mussel (L)			☒ Whooping Crane (L)	☒ N. Long-Eared Bat (L)

*Programmatic Biological Assessment Project Consistency Evaluation Form**
Upper Great Plains Region Wind Energy Development Program

☒ **Project proponent has reviewed the Programmatic Wind Energy EIS and BA, Appendix B of the BA relating to Species Consistency Evaluation Forms, and the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines.**

Commitment to incorporate applicable BMPs and Species-Specific Avoidance & Minimization Measures into the project plan:

North Bend Wind Project, LLC (Jonathan Koehn, VP)		1/18/2023
Project Proponent (Point of Contact)	Signature	Date

Agency Verification of Compliance with the Programmatic Wind Energy Biological Assessment:

TIMOTHY LANGER	Digitally signed by TIMOTHY LANGER Date: 2023.01.19 13:50:46 -07'00'	
Western Area Power Administration (Point of Contact)	Signature	Date
	Amity Bass Digitally signed by Amity Bass Date: 2023.01.23 13:54:01 -06'00'	
U.S. Fish & Wildlife Service (Point of Contact)	Signature	Date
NATALIE GATES	Digitally signed by NATALIE GATES Date: 2023.01.22 08:59:33 -08'00'	
U.S. Fish & Wildlife Service (ES Field Office Lead Biologist)	Signature	Date

***Version 3: March 2015**

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Northern long-eared bat *(Myotis septentrionalis)*

Project Name: North Bend Wind Project

Company: North Bend Wind Project, LLC

Best Management Practices

[X] All general BMPs, as stated in the final *Programmatic Environmental Impact Statement for the Upper Great Plains Region Wind Energy Program* and table 4.5-1 of the final *Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program*, will be implemented where appropriate, during each phase of the project (i.e., site characterization, construction, operations, and decommissioning). Although not all-inclusive, several of the more important BMPs for the conservation of this species follow.

- [X] Activities with continuous periods (i.e., longer than 24 hours) of noise disturbances greater than 75 db measured on the A scale (e.g., loud machinery) should be avoided within a 1-mi (1.6-km) radius of known or assumed northern long-eared bat hibernacula..
- [X] Restrict use of herbicides for vegetation management near known or assumed northern long-eared bat hibernacula to those specifically approved for use in karst (e.g., sinkholes) and water (e.g., streams, ponds, lakes, wetlands).
- [X] Avoid clearing of suitable habitat (spring staging, fall swarming, summer roosting) within a 5-mile (8.0 km) radius of known or assumed northern long-eared bat hibernacula. Retain snags, dead/dying trees, and trees with exfoliating (loose) bark ≥3-in. (7.6-cm) diameter at breast height (dbh) in areas ≤1 mi (1.6 km) from water.
- [X] Develop and implement a Bird and Bat Conservation Strategy (BBCS) as described in the *Land-Based Wind Energy Guidelines* that includes survey protocols acceptable to the USFWS in the project area during the spring and fall bird and bat migration seasons. Mortality monitoring will help to identify individual turbines that contribute to avian and bat mortality. This information could be used to provide design layout information for future wind development projects and to reduce the potential for future avian and bat mortality.

Species-Specific Avoidance Measures

[X] Throughout the range of the northern long-eared bat within the UGP Region, conduct preconstruction evaluations and/or surveys to identify suitable foraging, roosting, and commuting habitat within project boundaries and to identify the distance from project boundaries to hibernacula known/presumed used by northern long-eared bats. Disturbance of hibernacula is prohibited throughout the year.

[X] Avoid all suitable habitat (do not site turbines) in areas within 5 mi (8 km) of hibernacula used by northern long-eared bats or within 0.5 mi (0.8 km) of known or presumed occupied foraging, roosting, and commuting habitat. Habitat evaluations should be coordinated with the local USFWS Ecological Services Office prior to or during turbine site planning.

Species-Specific Minimization Measures

[X] A robust survey developed and implemented as part of the BBCS program, consistent with the Wind Energy Guidelines and approved by the USFWS during the preconstruction evaluation and survey stage, will be implemented for a minimum of 1 yr preconstruction.

[X] The need for implementation of cut-in speeds higher than manufacturers' recommendations during the fall bat migration period will be based on the following site-specific, project-by-project risk assessments by the State Ecological Services Field Office of the USFWS:

- During the preconstruction evaluation and survey stage, and based on a collision risk assessment of location of the project, proximity to potential summer habitat, distance to known occurrences, distance to known hibernacula, and suspected migration patterns, the applicant will coordinate with Western, Refuges, and the local Ecological Services Field Offices of the USFWS to determine if the risk of injury or mortality is sufficiently high to warrant higher cut-in speeds.
- In the event that preconstruction surveys indicate species occurrence or occupancy of habitat adjacent to the project area, higher turbine cut-in speeds will be required to offset the increased risk for injury or mortality. The monitoring must be rigorous enough to meet standards acceptable to the local USFWS State office.
- When warranted by either of the two aforementioned conditions for specific projects, turbine cut-in speeds will be increased to 16.4 ft/sec (5.0 m/sec) or greater from 0.5 hour before sunset to 0.5 hour after sunrise during the fall migration period (generally August 15–October 15, but consult with the USFWS for the established migration dates in each State) for northern long-eared bats in the western and central areas of the UGP Region. In the eastern fringe of the UGP Region, a minimum cut-in speed of 22.6 ft/sec (6.9 m/sec) from 0.5 hour before sunset to 0.5 hour after sunrise during the fall migration period (generally August 15–October 15, but consult with the USFWS for established migration dates in each State) for northern long-eared bats is required. Areas within the UGP Region that occur east of the western borders of Minnesota and Iowa will be used as the line of demarcation where the minimum cut-in speed of 22.6 ft/sec (6.9 m/sec) will be used. Use of feathering below the respective cut-in speed of 16.4 ft/sec (5.0 m/sec) or 22.6 ft/sec (6.9 m/sec) will also be implemented at night during the fall migration season to eliminate turbine rotation and avoid mortality of migrating northern long-eared bats. Increased cut-in speed and feathering can be suspended from 0.5 hour after sunrise to 0.5 hour before sunset.

[X] Immediately report observations of northern long-eared bat mortality to the appropriate USFWS office.

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Northern long-eared bat *(Myotis septentrionalis)*

Impact Information				
Project within county with recorded northern long-eared bat?	[X] Yes	[ ] No		
Preconstruction evaluations conducted with USFWS?	[ ] Yes	[X] No	Dates:	N/A
Parties involved:	North Bend, WEST			
Suitable foraging or roosting habitat in or near project footprint?	[X] Yes	[ ] No		
Distance from suitable habitat:	0 Miles			
Distance from hibernacula:	> 108 Miles			
Has habitat been surveyed to protocol?	[X] Yes	[ ] No	Dates of survey:	June 2021
Result of survey:	[X] Occupied (species detected)		[ ] Not occupied (species not detected)	
Turbine cut-in speed:	3.0 m/s (Winter, Spring, Summer) 5.0 m/s (Fall [15 August to 15 October]) m/sec			
Map of project footprint and species habitat attached?	[X] Yes		[ ] No	

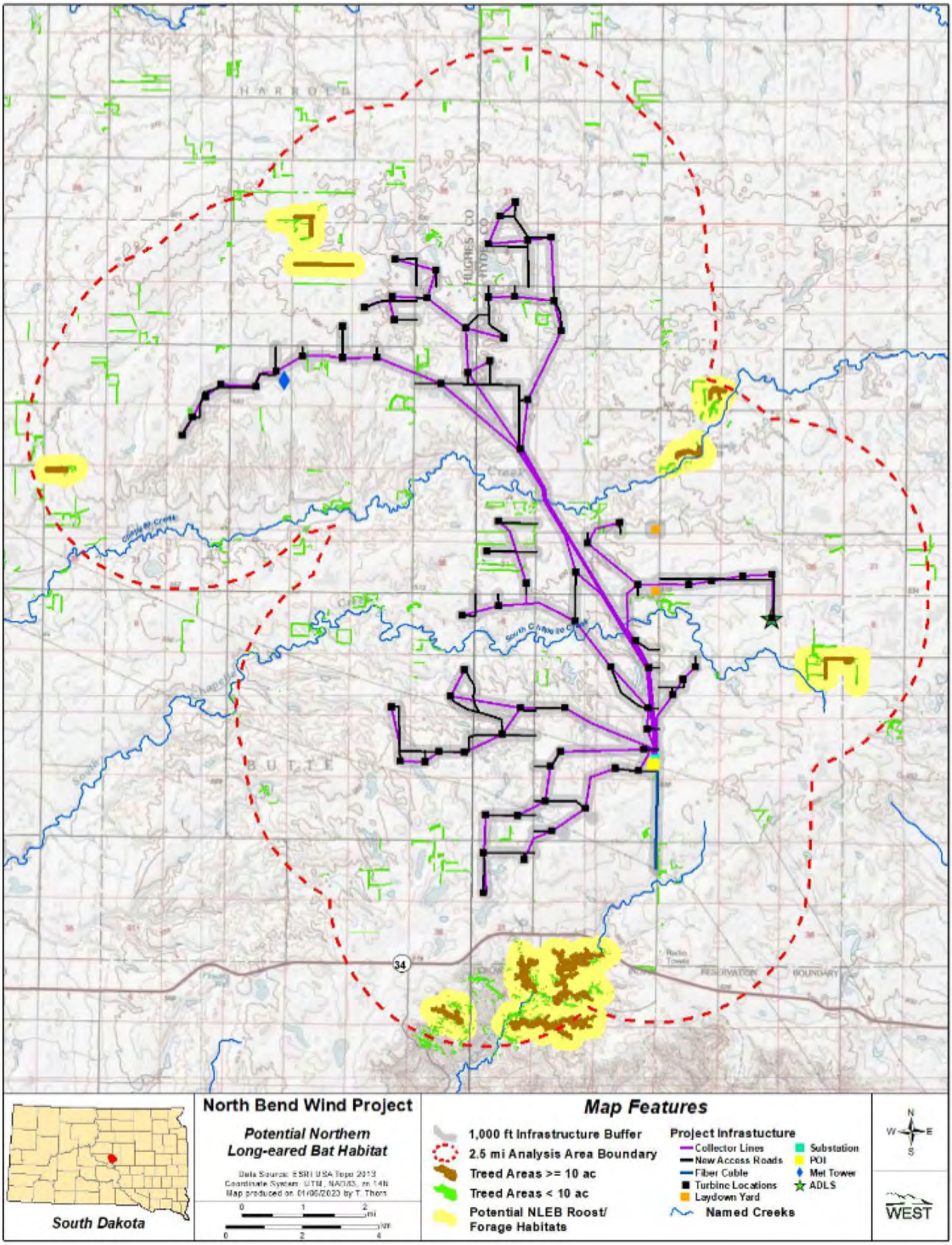
Effects—Explanation of consistency determination with programmatic effects determination of "may affect, not likely to adversely affect" or "no effect":

A pre-construction foraging and roosting habitat evaluation was completed following guidance from the 2020-2021 USFWS Range-wide Indiana Bat Survey Guidelines. Once the habitat evaluation was completed, presence was assumed at each patch of trees 10 acres or greater and included a 1,000-foot buffer (hereafter, connected habitat buffers) as recommended by USFWS guidance. No turbines were sited within 0.5 miles of these connected habitat buffers, which are depicted in yellow in the attached figure and therefore no surveys were warranted. The highest risk time for fatalities is during migration from summer habitat to hibernacula in the fall which corresponds with typically higher activity of all bat species. NLEB can travel up to 35 miles from hibernacula to summer foraging habitat (USFWS 2022). However, this risk is reduced because the Project is 108 miles from the nearest known hibernacula where they may be migrating to.

The nearest known occurrence records of NLEB are approximately 17 miles west of the Project. Following the Wind Energy Guidelines, pre-construction acoustic surveys were completed at two bat acoustic stations in 2016 and 2018 and detected a total of 236 high frequency calls that could contain NLEB calls. There are no known or assumed NLEB hibernacula within 1 mile of the Project, so the Project would not need to avoid continuous noise activities or use specially approved herbicides based on Species-Specific Conservation Measure stipulations in the Programmatic Biological Assessment. Tree removal is not proposed, so suitable habitat would not be cleared. No additional impacts would result from construction, maintenance, or decommissioning of the Project. The Project would notify the appropriate USFWS office in the event that a NLEB was detected injured or dead.

Acoustic surveys were completed in 2016 and 2018. A review of high-frequency bat calls (177 in 2016 and 59 in 2018) through Kaleidoscope (versions 5.4.7 and 5.1.6, respectively) identified three potential calls that required manual review by an acoustic expert. After the manual review no calls were determined to be those of NLEB.

Cut-in speeds from 3.0 m/s would be increased to 5.0 m/s during the fall period (15 August – 15 October) following the species-specific minimization measures as described above in the consistency form. This would apply to the entire Project. In addition to these avoidance and minimization measures, the Project committed to one year of post-construction monitoring following recommendations from USFWS and would intend to achieve an overall g-value of 0.2 for NLEB using an Evidence of Absence statistical approach (Dalthrop et al. 2017). In summary, WAPA has considered this information and determined the Project may affect, is not likely to adversely affect NLEB.


HARRISON
HUGHES CO
HYDE CO
BUTTE
34
Radio Towers
RESERVATION BOUNDARY
South Chapelle Creek
South Chapelle Creek
South Dakota
North Bend Wind Project
Potential Northern Long-eared Bat Habitat
Data Source: ESRI USA Topo 2013
Coordinate System: UTM, NAD83, zn 14N
Map produced on: 01/05/2023 by T. Thorn
0 1 2 mi
0 2 4 km
Map Features
1,000 ft Infrastructure Buffer
2.5 mi Analysis Area Boundary
Treed Areas >= 10 ac
Treed Areas < 10 ac
Potential NLEB Roost/ Forage Habitats
Project Infrastucture
Collector Lines
New Access Roads
Fiber Cable
Turbine Locations
Laydown Yard
Substation
POI
Met Tower
ADLS
Named Creeks
N
W
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WEST

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Pallid sturgeon (*Scaphirhynchus albus*)

Project Name: North Bend Wind Project

Company: North Bend Wind Project, LLC

Best Management Practices

[X] All general BMPs, as stated in the final *Programmatic Environmental Impact Statement for the Upper Great Plains Region Wind Energy Program* and table 4.5-1 of the final *Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program*, will be implemented where appropriate, during each phase of the project (i.e., site characterization, construction, operations, and decommissioning). Although not all-inclusive, several of the more important BMPs for the conservation of this species follow.

- [X] Dispose of excess excavation materials in approved areas to control erosion and minimize leaching of hazardous materials.
- [X] No refueling vehicles and equipment within 100 ft (30.5 m) of the ordinary high water mark or wetland boundary.

Species-Specific Avoidance Measures

[X] Conduct preconstruction evaluations and/or surveys in areas of potential occurrence to identify suitable habitat and areas of occurrence within project boundaries.

[X] Do not site turbines, access roads, transmission line towers, or other project facilities in or immediately adjacent to aquatic habitat where pallid sturgeon occurs.

Species-Specific Minimization Measures

For projects that encompass areas within drainages occupied by pallid sturgeon:

[X] Employ BMPs (additional project-specific) during and after construction to control erosion and runoff to aquatic habitats.

[X] Avoid broadcast applications of pesticides or herbicides that may be harmful to the pallid sturgeon in aquatic habitat. Applications should be made by appropriately licensed applicators where required and applied only in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications. Limit pesticide use to non-persistent immobile pesticides.

[X] Employ measures to minimize the amount of stream habitat disturbance when transmission lines and access roads must be constructed across streams.

[X] Ensure that upstream and downstream fish passage is maintained in any areas where stream habitat disturbance occurs.

[X] Avoid actions that would alter surface water flow in occupied habitat.

Impact Information

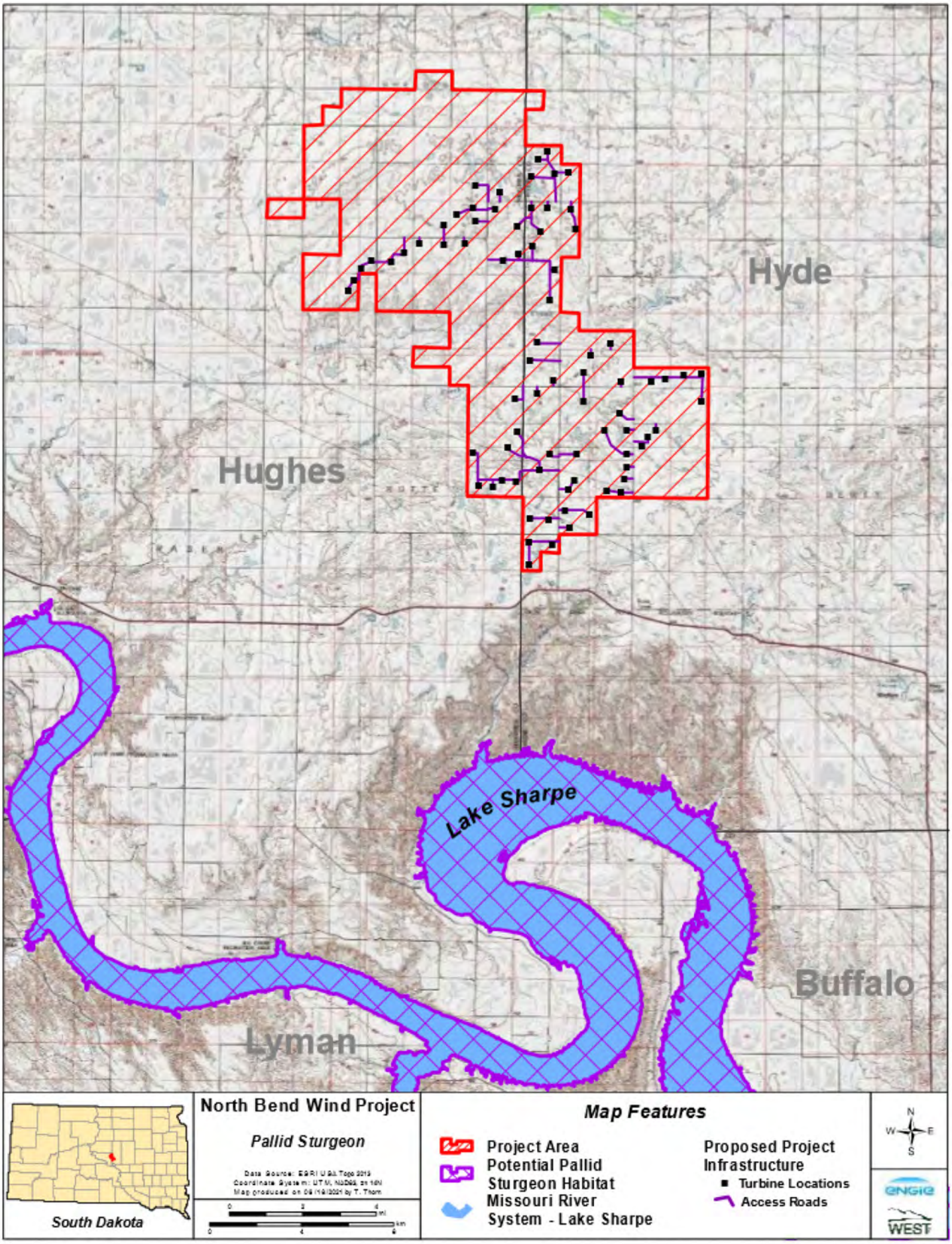
Project within county with recorded pallid sturgeon?	[X] Yes	[ ] No		
Preconstruction evaluations conducted with USFWS?	[ ] Yes	[X] No	Dates:	
Parties involved:				
Suitable aquatic habitat in or near project footprint?	[X] Yes	[ ] No		
Distance from suitable habitat:	4.5 Miles			
Has habitat been surveyed to protocol?	[ ] Yes	[X] No	Dates of survey:	
Result of survey:	[ ] Occupied (species detected)		[ ] Not occupied (species not detected)	
Project within drainages of occupied habitat?	[X] Yes	[ ] No		
Species-specific minimization measures employed?	[X] Yes	[ ] No		
Map of project footprint and species habitat attached?	[X] Yes	[ ] No		

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Pallid sturgeon (*Scaphirhynchus albus*)

Effects—Explanation of consistency determination with programmatic effects determination of "may affect, not likely to adversely affect" or "no effect":

The Project is located approximately 4.5 miles from the Missouri River where there is suitable habitat for pallid sturgeon. The two intermittent creeks that flow to the Missouri River (Chapelle and South Chapelle creeks), and the 86 acres of riverine habitat in the Project area would not support pallid sturgeon. These creeks are not within the pallid sturgeon's range of known occurrence (USFWS 2021a) and do not provide habitat features such as deep water and fast, turbulent flows, and the diverse assemblage of physical habitats required for occupancy (Kallemeyn 1983, Erickson 1992, Wanner *et al.* 2007). Further, the 0.86 mile of construction and 0.17 mile of operation impacts to creeks would be implemented such that the activities would minimize habitat disturbance. The Project developed and would implement a Stormwater Pollution Prevention Plan and use standard erosion control BMPs using a combination of natural fiber netting, silt fences, and erosion control blankets so there would be no impact to the water quality of surface flow of the Missouri River where pallid sturgeon reside. In summary, WAPA has considered this information and determined the Project will have no effect on pallid sturgeon.


Hyde
Hughes
Lake Sharpe
Buffalo
Lyman
South Dakota
North Bend Wind Project
Pallid Sturgeon
Data Source: ESRI USA Topo 2015
Coordinate System: UTM, NAD83, zn 14N
Map produced on 08/19/2024 by T. Thorn
Map Features
Project Area
Potential Pallid Sturgeon Habitat
Missouri River System - Lake Sharpe
Proposed Project Infrastructure
Turbine Locations
Access Roads
N
W
E
S
ENGIE
WEST

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Piping plover *(Charadrius melodus)*

Project Name: North Bend Wind Project

Company: North Bend Wind Project, LLC

Best Management Practices

[X] All general BMPs, as stated in the final *Programmatic Environmental Impact Statement for the Upper Great Plains Region Wind Energy Program* and table 4.5-1 of the final *Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program*, will be implemented where appropriate, during each phase of the project (i.e., site characterization, construction, operations, and decommissioning). Although not all-inclusive, several of the more important BMPs for the conservation of this species follow.

- [X] Meteorological towers shall not be located in sensitive habitats or in areas where resources known to be sensitive to human activities (e.g., wetlands, cultural resources, and listed species) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors, and the disturbed area will be minimized.
- [X] The use of guy wires on meteorological towers shall be avoided or minimized. Any needed guy wires shall have guys appropriately marked with approved bird flight diverters.
- [X] Place marking devices on any newly constructed or upgraded transmission lines, where appropriate, within suitable habitats for sensitive bird species.

Species-Specific Avoidance Measures

- [X] Conduct preconstruction evaluations and/or surveys in areas of potential occurrence to identify suitable habitat and areas of occurrence within project boundaries.
- [X] Do not site turbines, access roads, transmission lines, or other project facilities within the Missouri (including Niobrara River) and Yellowstone River system floodplains or any closer than 1.5 mi (2.4 km) from known/suitable sandbar habitat and reservoir shorelines with nesting, resting, and foraging areas.
- [X] Do not site turbines, access roads, transmission lines, or other project facilities within the Platte River (including Loup and Elkhorn Rivers) system floodplain or any closer than 1.5 mi (2.4 km) from known/suitable riverine habitat.
- [X] Do not site turbines, access roads, transmission lines, or other project facilities within 1.5 mi (2.4 km) of known sandpit nesting, resting, and foraging areas along the Platte River (including Loup and Elkhorn Rivers) system.
- [X] Do not site turbines, transmission lines, access roads, or other project facilities within 3.0 mi (4.8 km) of alkali lakes where piping plover nesting has been documented or those designated as critical habitat.
- [X] Do not site turbines, transmission lines, access roads, or other project facilities in between any alkali lakes identified with a 3.0 mi (4.8 km) buffer where the outer limit of the buffer zones are less than 3.0 mi (4.8 km) apart.
- [X] Do not site turbines, transmission lines, access roads, or other project facilities within 1.5 mi (2.4 km) of riverine designated critical habitat or 3.0 mi (4.8 km) of alkali wetlands designated as critical habitat.

Species-Specific Minimization Measures

Additional minimization measures specifically intended to reduce the potential for adverse effects on the piping plover have not been identified at this time. The identified avoidance measures together with general BMPs to reduce ecological impacts from wind energy under the proposed program adequately address the conservation measures for this species.

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Piping plover *(Charadrius melodus)*

Impact Information				
Project within county with recorded piping plovers?	[X] Yes	[ ] No		
Preconstruction evaluations conducted with USFWS?	[ ] Yes	[X] No	Dates:	N/A
Parties involved:	WEST, North Bend			
Suitable habitat in or near project footprint?	[ ] Yes	[X] No		
Distance from suitable riverine, reservoir, or alkali lake habitat:	4.5	Miles		
Distance from designated critical habitat:	28.9	Miles		
Has habitat been surveyed to protocol?	[ ] Yes	[X] No	Dates of survey:	N/A
Result of survey:	[ ] Occupied (species detected)		[ ] Not occupied (species not detected)	
New overhead distribution/transmission lines proposed?	[X] Yes	[ ] No		
Distance from occupied piping plover habitat:	17.5	Miles		
Marking with bird flight diverters proposed?	[X] Yes	[ ] No		
Map of project footprint and species habitat attached?	[ ] Yes	[X] No		

Effects—Explanation of consistency determination with programmatic effects determination of "may affect, not likely to adversely affect" or "no effect":

No piping plover observations were recorded during the four years (872 hours) of pre-construction avian use surveys. The nearest reported piping plover is a 2021 sighting approximately 17.5 miles from the Project (data from eBird, accessed September 2021). Most reported observations of piping plover occur around Pierre, SD, about 28 miles west of the Project. The nearest suitable piping plover habitat is the Missouri River, approximately 4.5 miles from the Project's boundary; however, piping plover may also use alkali lakes. No alkali likes were observed within the Project footprint; however, in dry years piping plover could occur within dried up wetlands. There is limited (e.g., dried up wetlands periodically) to no suitable habitat within the Project footprint. There is a short overhead power line (500 feet) proposed for the Project due to the proximity of the existing infrastructure. Therefore bird flight diverters and marking devices specified in the Programmatic Biological Assessment would be installed and maintained on overhead lines following industry standards (APLIC 2012) for the life of the Project. In summary, WAPA has considered this information and found there is a low likelihood of collision risk and determined the Project therefore may affect, is not likely to adversely affect piping plover.

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Rufa red knot *(Calidris canutus rufa)*

Project Name: North Bend Wind Project

Company: North Bend Wind Project, LLC

Best Management Practices

[X] All general BMPs, as stated in the final *Programmatic Environmental Impact Statement for the Upper Great Plains Region Wind Energy Program* and table 4.5-1 of the final *Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program*, will be implemented where appropriate, during each phase of the project (i.e., site characterization, construction, operations, and decommissioning). Although not all-inclusive, several of the more important BMPs for the conservation of this species follow.

- [X] The use of guy wires on meteorological towers shall be avoided or minimized. Any needed guy wires shall have guys appropriately marked with approved bird flight diverters.
- [X] Place marking devices on any newly constructed or upgraded transmission lines, where appropriate, within suitable habitats for sensitive bird species.

Species-Specific Avoidance Measures

[X] Conduct preconstruction evaluations and/or surveys in areas of potential occurrence to identify suitable habitat and areas of occurrence within project boundaries.

Species-Specific Minimization Measures

Additional minimization measures specifically intended to reduce the potential for adverse effects on the rufa red knot have not been identified at this time. The identified general BMPs to reduce ecological impacts from wind energy under the proposed program adequately address the conservation measures for this species. Additional minimization measures specifically intended to reduce the potential for adverse effects on the rufa red knot have not been identified at this time. The identified general BMPs to reduce ecological impacts from wind energy under the proposed program adequately address the conservation measures for this species.

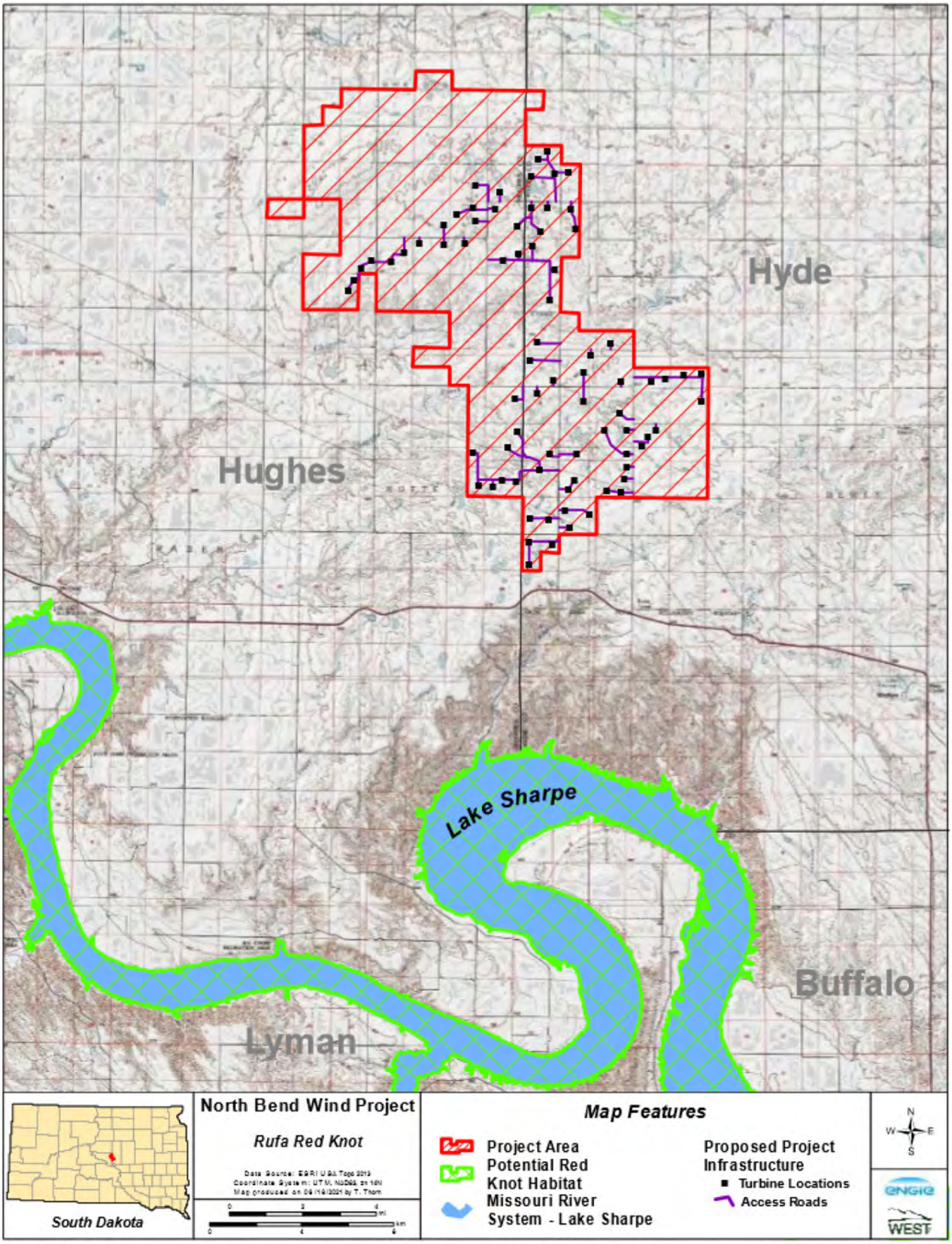
Coordinate with the local USFWS field office regarding new species information or conservation measures during planning stages.

Impact Information

Project within county with recorded rufa red knot as a transient?	[X] Yes	[ ] No		
Preconstruction evaluations conducted with USFWS?	[ ] Yes	[X] No	Dates:	N/A
Parties involved:	WEST, North Bend			
Suitable stopover habitat in or near project footprint?	[ ] Yes	[X] No		
Distance from suitable habitat:	4.5 Miles			
New overhead distribution/transmission lines proposed?	[X] Yes	[ ] No		
Distance from suitable stopover habitat?	N/A Miles			
Marking with approved bird flight diverters proposed?	[X] Yes	[ ] No		
Map of project footprint and species habitat attached?	[X] Yes	[ ] No		

Effects—Explanation of consistency determination with programmatic effects determination of "may affect, not likely to adversely affect" or "no effect":

Pre-construction evaluations determined the nearest potential rufa red knot habitat is approximately 4.5 miles from the Project's boundary at Lake Sharp, part of the Missouri River (see map). Rufa red knot may be found during migration, although five years (1,004 hours) of avian use surveys did not opportunistically detect them. The nearest reported rufa red knot, detected in 2016, is approximately 16.5 miles from the closest Project turbine (data from eBird, accessed September 2021). The other rufa red knot record in Hughes County was reported in 2002 (data from eBird, accessed September 2021). There is a short overhead power line (500 feet) proposed for the Project due to the proximity of the existing infrastructure. Therefore bird flight diverters and marking devices specified in the Programmatic Biological Assessment would be installed and maintained on overhead lines following industry standards (APLIC 2012) for the life of the Project. In summary, WAPA has considered this information and found there is a low likelihood of collision risk and determined the Project therefore may affect, is not likely to adversely affect rufa red knot.


Hyde
Hughes
Lake Sharpe
Buffalo
Lyman
South Dakota
North Bend Wind Project
Rufa Red Knot
Data Source: ESRI USA Topo 2015
Coordinate System: UTM, NAD83, zn 14N
Map produced on 08/19/2024 by T. Thorn
Map Features
Project Area
Potential Red Knot Habitat
Missouri River System - Lake Sharpe
Proposed Project Infrastructure
Turbine Locations
Access Roads
N
W
E
S
ENGIE
WEST

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Whooping crane *(Grus americana)*

Project Name: North Bend Wind Project

Company: North Bend Wind Project, LLC

Best Management Practices

[X] All general BMPs, as stated in the final *Programmatic Environmental Impact Statement for the Upper Great Plains Region Wind Energy Program* and table 4.5-1 of the final *Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program,* will be implemented where appropriate, during each phase of the project (i.e., site characterization, construction, operations, and decommissioning). Although not all-inclusive, several of the more important BMPs for the conservation of this species follow.

[X] The use of guy wires on meteorological towers shall be avoided or minimized. Any needed guy wires shall have guys appropriately marked with approved bird flight diverters.

Species-Specific Avoidance Measures

For projects that occur within the portion of the whooping crane migration corridor that encompasses 95 percent of historic sightings:

[X] Conduct preconstruction evaluations and/or surveys to identify wetlands that provide potentially suitable stopover habitat and areas of occurrence within project boundaries.

[ ] 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 or within 5 mi (8 km) of the Platte or Niobrara Rivers in Nebraska.

[X] Do not site turbines, transmission lines, access roads, or other project facilities within 5 mi (8 km) of designated critical habitat.

Species-Specific Minimization Measures

For projects that that occur within the portion of the whooping crane migration corridor that encompasses 95 percent of historic sightings:

[X] Place approved bird flight diverters on the top static wire on any new or upgraded overhead collector, distribution, and transmission lines within 1 mi (1.6 km) of suitable stopover habitat.

[X] Establish a procedure for preventing whooping crane collisions with turbines during operations by establishing and implementing formal plans for monitoring the project site and surrounding area for whooping cranes during spring and fall migration periods throughout the operational life of the project (or as determined by the local USFWS field office) and shutting down turbines and/or construction activities within 2 mi (3.2 km) of whooping crane sightings. Monitoring can be done by existing onsite personnel trained in whooping crane identification. Specific requirements of the monitoring and shutdown plan will be determined during preconstruction evaluations. Sightings of whooping cranes in the vicinity of projects will be reported to the appropriate USFWS field office immediately.

[X] Instruct workers in the identification and reporting of sandhill and whooping cranes and to avoid disturbance of cranes present near project areas.

[X] The acreage of wetlands that are potentially suitable migratory stopover habitat located within a 0.5 mi (0.8 km) radius of turbines may be mitigated based upon site-specific evaluations.

Programmatic Biological Assessment Species Consistency Evaluation Form
Upper Great Plains Region Wind Energy Development Program
Impact Information and Consistency Determination

Whooping crane *(Grus americana)*

Impact Information			
Project within county with recorded whooping crane?	[X] Yes	[ ] No	
Preconstruction evaluations conducted with USFWS?	[ ] Yes	[X] No	Dates:
Parties involved:	North Bend, WEST		
Suitable habitat in or near project footprint?	[X] Yes	[ ] No	
Distance from suitable stopover habitat:	0		Miles
Distance from designated critical habitat?	245		Miles
Distance from the Platte or Niobrara River?	247 mi Platte 108 mi Niobrara		Miles
New overhead distribution/transmission lines proposed?	[X] Yes	[ ] No	
Distance from suitable stopover habitat?	N/A		Miles
Marking with approved bird flight diverters proposed?	[X] Yes	[ ] No	
Monitoring plan for spring/fall migrstion (copy attached)?	[X] Yes	[ ] No	
Employees trained in identification of whooping cranes?	[X] Yes	[ ] No	
Shut-down protocol for sitings within 2 mi (3.2 km) (attached)?	[X] Yes	[ ] No	
Map of project footprint and species habitat attached?	[X] Yes	[ ] No	

Effects—Explanation of consistency determination with programmatic effects determination of "may affect, not likely to adversely affect" or "no effect": See Attached

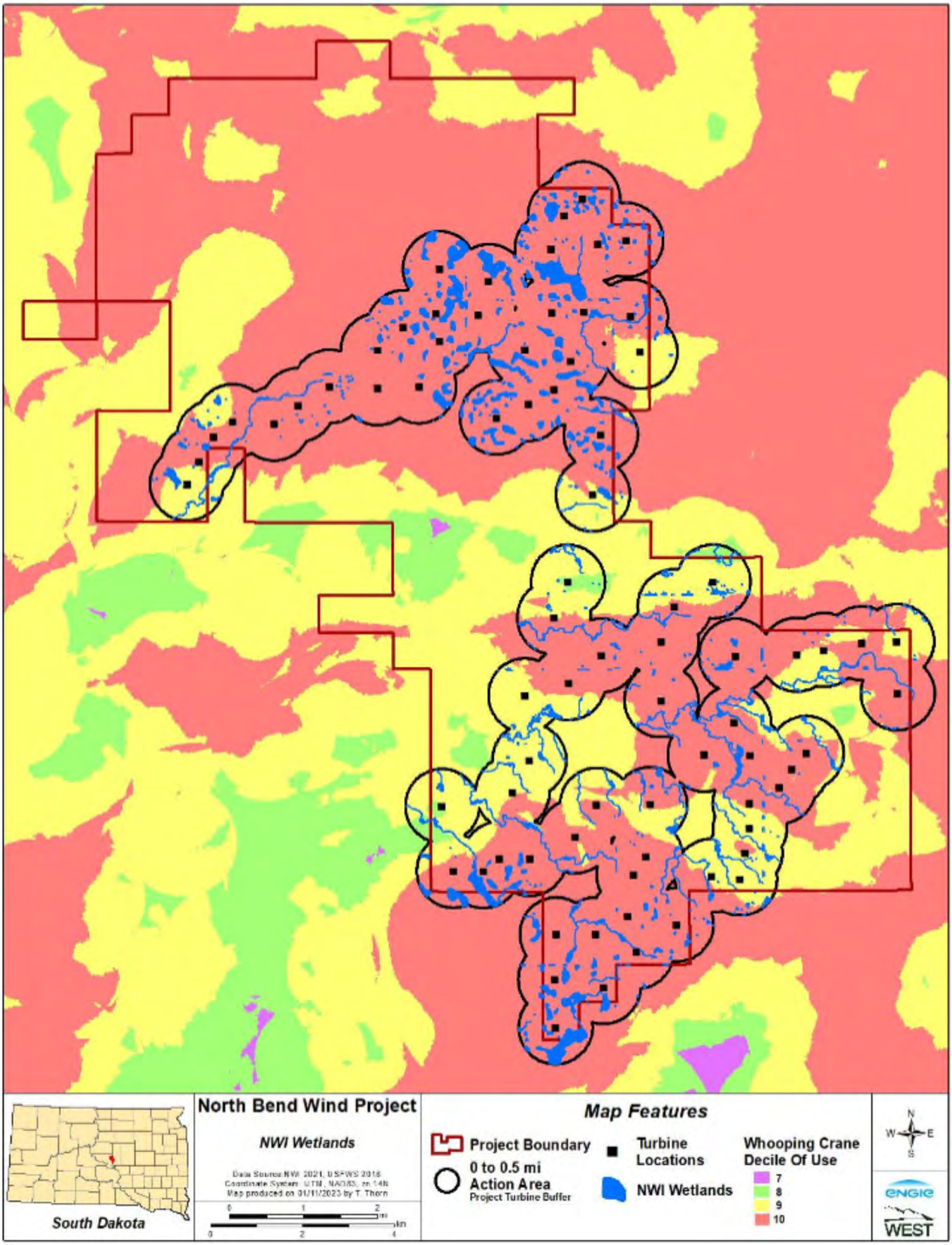
Effects Description – North Bend Wind Project

Whooping Crane (*Grus americana*, Endangered)

The North Bend Wind Project (Project) is tiering from the Upper Great Plains PEIS and Programmatic Biological Assessment (PBA). All conditions prescribed by the Consistency Evaluation Form for whooping crane have been met with the exception of the species-specific avoidance measure stipulating that Project infrastructure not be sited within one mile of wetlands that provide suitable whooping crane stopover habitat. We provide a mitigation solution to address the species-specific minimization measure in the consistency form that indicates that impacts to potentially suitable migratory stopover habitat located within a 0.5 mile (mi) radius of turbines may be mitigated based on site-specific evaluation.

Niemuth et al. (2018) developed a model that used 13 variables to identify whooping crane probability of use across the landscape in North and South Dakota. This probability dataset was then divided into 10 equal-area bins, or deciles, to aid in conservation planning (Niemuth et al. 2018). For this Project, suitable habitat for whooping cranes was defined as wetlands (NWI; USFWS 2021) that intersect the five highest deciles (Niemuth et al. 2018).

To determine the total acreage of suitable whooping crane stopover habitat for mitigation, the total acres of NWI that overlapped with the five highest whooping crane deciles (Niemuth et al. 2018) within 0.5 mi of proposed turbine locations was calculated. This resulted in a total of 1,310.8 acres of wetlands that the Project proponent will have mitigated (see map). Mitigation will be accomplished by Ducks Unlimited within the state of South Dakota and the 95% whooping crane migration corridor. The Project will make payment to Ducks Unlimited at the applicable land evaluation rate (currently $2,529/acre), plus administrative fees prior to the Project's interconnection. Furthermore bird flight diverters and marking devices specified in the Programmatic Biological Assessment would be installed and maintained on overhead lines following industry standards (APLIC 2012) for the life of the Project. In summary, WAPA has considered this information and determined the Project may affect, is not likely to adversely affect whooping crane.


North Bend Wind Project
NWI Wetlands
Data Source:NWI 2021; USFWS 2018
Coordinate System: UTM , NAD83, zn 14N
Map produced on 01/11/2023 by T. Thorn
0 1 2 mi
0 2 4 km
South Dakota
Map Features
Project Boundary
0 to 0.5 mi Action Area
Project Turbine Buffer
Turbine Locations
NWI Wetlands
Whooping Crane Decile Of Use
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WHOOPING CRANE MONITORING PLAN AND TURBINE SHUT-DOWN PROTOCOL NORTH BEND WIND PROJECT, Hughes and Hyde Counties, South Dakota

Prepared for:

North Bend Wind Project, LLC

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June 13, 2022

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North Bend Wind Project, LLC (North Bend) is proposing to develop the North Bend Wind Project (Project) in Hughes and Hyde counties, South Dakota (Figure 1). As currently proposed, the Project would have a generation capacity of approximately 200 megawatts (MW), consisting of up to 71 GE 2.8MW wind turbines encompassing approximately 47,000 acres. The Project would also include electric underground collection lines and communication lines, a transmission line, a Project substation, a switchyard, access roads connecting turbines and associated facilities, a permanent meteorological tower, and a temporary laydown yard. The location of the Project in Hughes and Hyde counties has been sited and initially developed with coordination between US Fish and Wildlife Service (FWS), South Dakota Game, Fish, and Parks (GFP), and Western Area Power Administration (WAPA).

The Project is located within the migration corridor of the federally endangered whooping crane (*Grus americana)*. North Bend conducted a stopover habitat assessment to identify suitable wetland habitat for whooping crane, using The Watershed Institute model (TWI 2012) and a scoring threshold of wetlands that scored 12 or better (Figure 2). The project layout was also evaluated using a stopover habitat model developed by Niemuth et al. (2018; Niemuth Model) to create a predictive map of relative probability of use by whooping cranes (Figure 3). The stopover habitat assessment analyses using the Niemuth Model and the TWI model show similar results. Suitable stopover habitat for whooping cranes (TWI scored wetlands 12 or greater) occurs in limited amounts within a mile of proposed turbines at the Project (Figure 2), and the Niemuth Model shows a low probability of whooping crane use as compared to the surrounding landscape (Figure 3).

North Bend has developed a whooping crane monitoring and voluntary activity shut-down protocol to minimize the potential for impacts to whooping cranes during spring and fall migration seasons, when the species may potentially be present. This study plan is based on commitments provided in the North Bend Bird and Bat Conservation Strategy (BBCS).

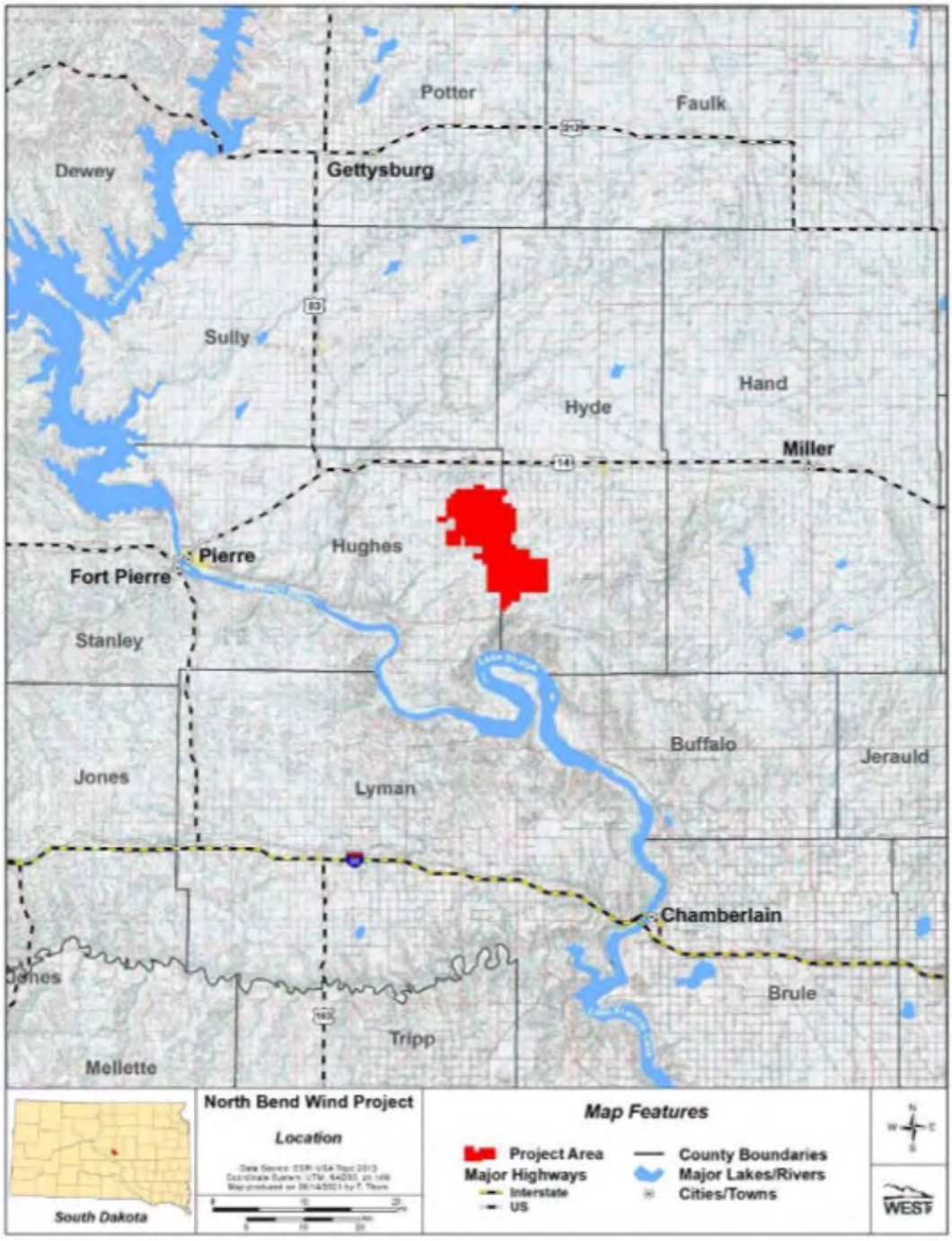

Figure 1. Location of the North Bend Wind Project, Hughes and Hyde counties, South Dakota.

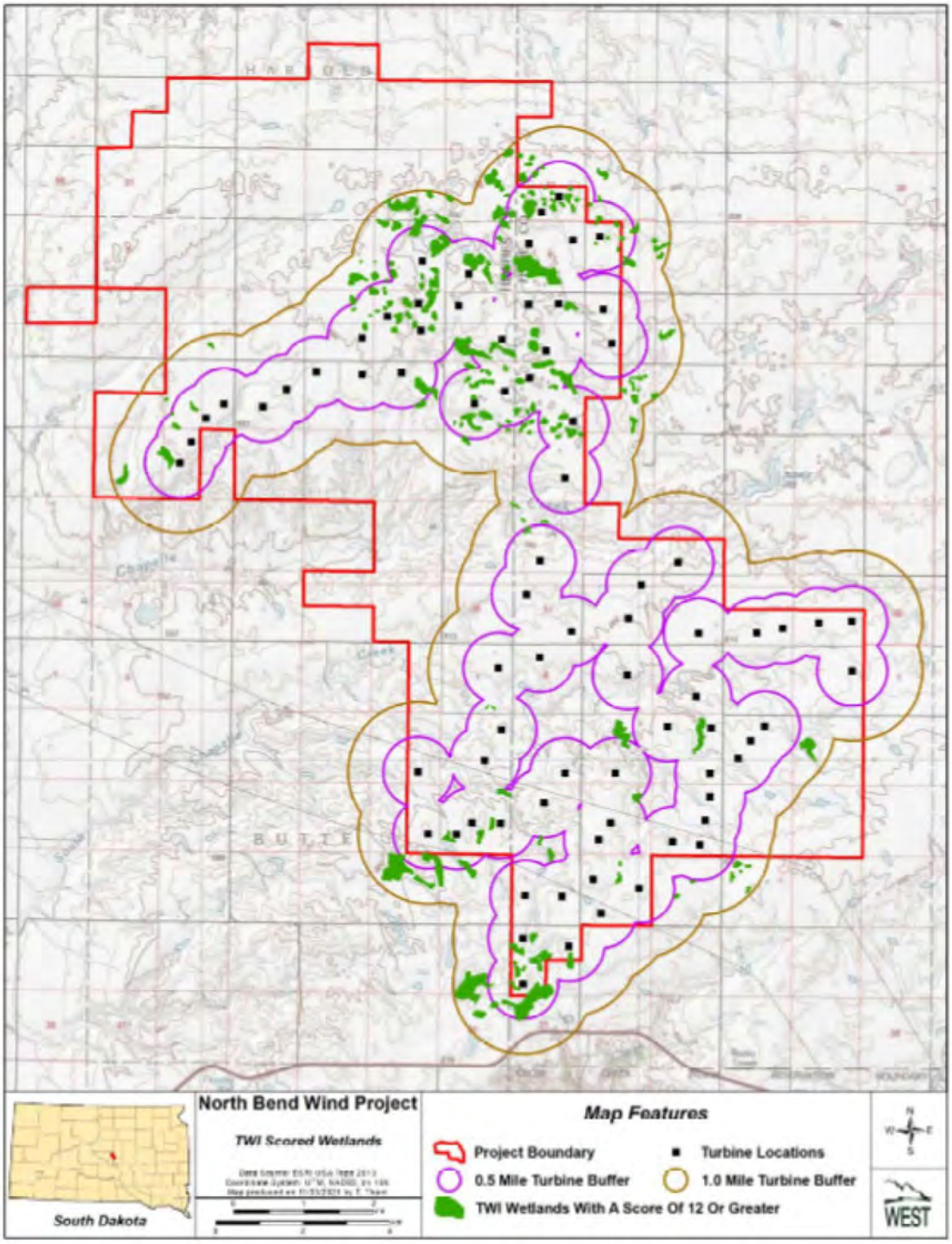

Figure 2. The Watershed Institute suitable whooping crane stopover habitat wetlands (scores >12; TWI [2012]) for the North Bend Wind Project within one mile of proposed turbines.

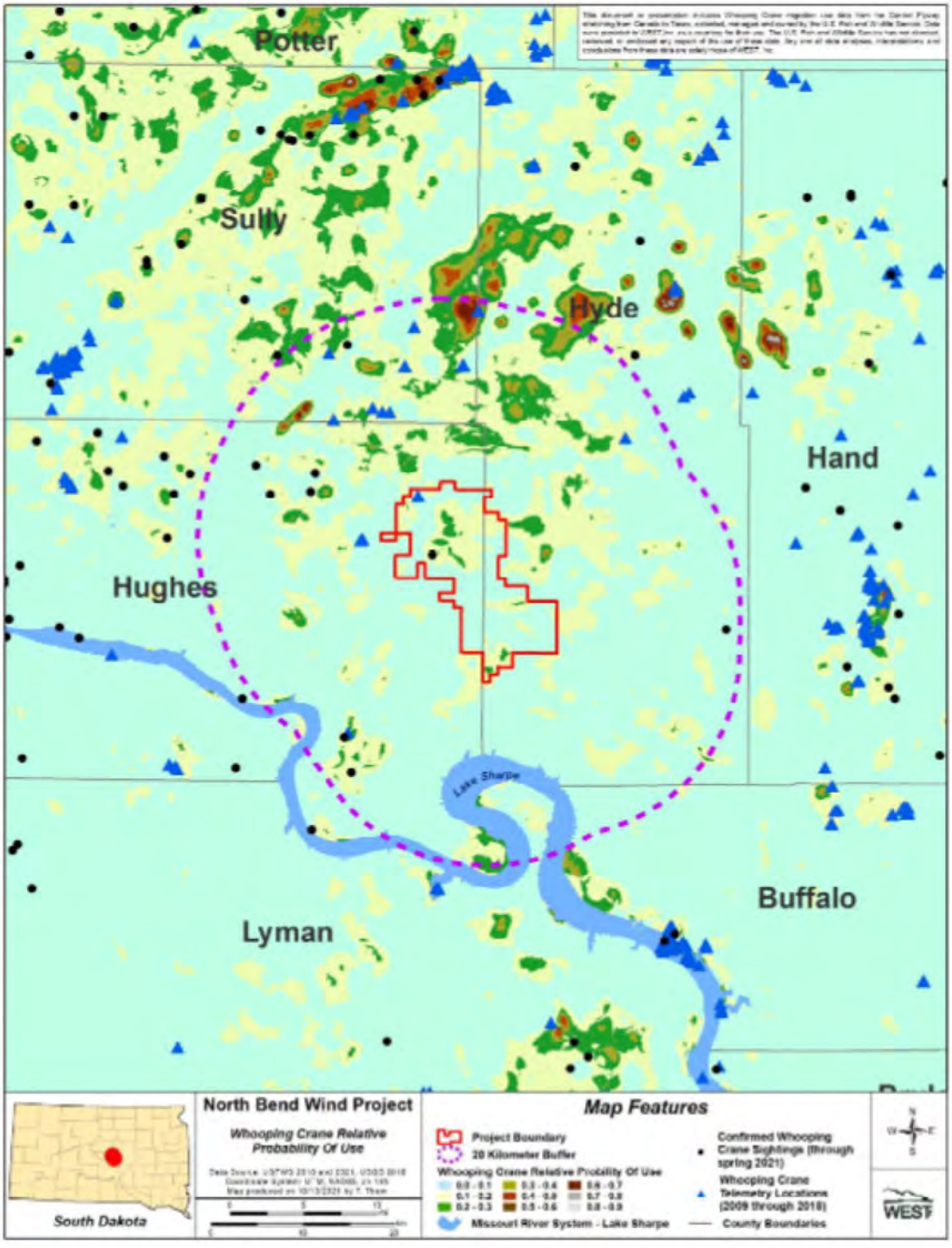

Figure 3. Relative probability of whooping crane use within the North Bend Wind Project based on Niemuth et al. (2018).

2 WHOOPING CRANE MONITORING

Whooping crane monitoring will be focused during the spring and fall migration seasons during construction and operation of the Project. The spring migration season is defined as approximately April 1 to May 15, and the fall migration season is September 10 to October 31. South Dakota Ecological Services Field Office may be contacted to define the timing of annual whooping crane migration in subsequent years. Monitoring will take place daily, and because whooping cranes are diurnal migrants, will primarily focus with the first and last two hours of daylight each day. A Project Construction Manager or Site Manager (or their designee) will drive along public roads and Project access roads within two miles of turbine locations and visually scan the skies, fields, grasslands, wetlands, and other open areas for the presence of cranes, using binoculars or a spotting scope on a daily basis. If any whooping cranes are observed, the number of cranes, UTM location coordinates, and behavior will be recorded, along with maps depicting any flight paths in the Project. Any flocks of sandhill cranes (*Grus canadensis*) will also be examined closely because whooping cranes sometimes travel with sandhill cranes.

The whooping crane monitoring protocol applies to both construction and operation periods as stated below:

- Construction Manager or their designee will conduct construction monitoring during the above defined spring and fall migration seasons, and stop construction activities (see shut-down protocol below) within two miles of observed whooping cranes until the area is vacated.
- Site Manager or their designee will conduct operational monitoring during the above defined spring and fall migration seasons. Operations staff will be trained to identify whooping cranes, and if any are noted in the Project, turbines within two miles of the whooping crane(s) will be shut down (see shut down protocol below) until whooping cranes have vacated the area.

3 ACTIVITY SHUT-DOWN PROTOCOL

Construction, and Operation and Maintenance (O&M) personnel will be made aware of potential for the species to occur during spring and fall migration and the process to follow if a whooping crane(s) is believed to have been observed in the Project. A whooping crane identification poster will be permanently posted in the O&M facility for reference, and tri-fold identification pamphlets will be made available for personnel to carry on their person. A communication calling tree will be developed for any confirmed sightings of whooping cranes within two miles.

If construction personnel observe a crane(s) within two miles of the Project, the Construction Manager or their designee will halt construction activities within two miles of the observed crane(s) until cranes(s) are greater than two miles away. North Bend will inform the US Fish and Wildlife Service and South Dakota Game Fish and Parks of any whooping crane observations and any construction modification made based on the location of the observation.

Similarly, if operations personnel observe a crane(s) within 2-miles of the Project, the Site Manager or their designee will halt all turbine operations within two miles of the observed crane(s) until whooping cranes(s) are more than two miles away for more than two hours. North Bend will inform the agencies of any whooping crane observations and any corresponding shut-down of turbines.

4 REFERENCES

ArcGIS. GIS Software. ArcGIS 10.2. ESRI, Redlands, California.

ESRI. 2019. World Imagery and Aerial Photos. (World Topo). ArcGIS Resource Center. Environmental Systems Research Institute (ESRI), producers of ArcGIS software. Redlands, California. Information online: http://www.arcgis.com/home/webmap/viewer.html?useExisting=1

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North American Datum (NAD). 1983. Nad83 Geodetic Datum.

The Watershed Institute, Inc. (TWI) 2012. Potentially suitable habitat assessment for the whooping crane (*Grus americana*). Topeka, KS.

Appendix F. Whooping Crane Operational Procedure Program for the North Bend Wind Project

WHOOPING CRANE MONITORING PLAN AND TURBINE SHUT-DOWN PROTOCOL NORTH BEND WIND PROJECT, Hughes and Hyde Counties, South Dakota

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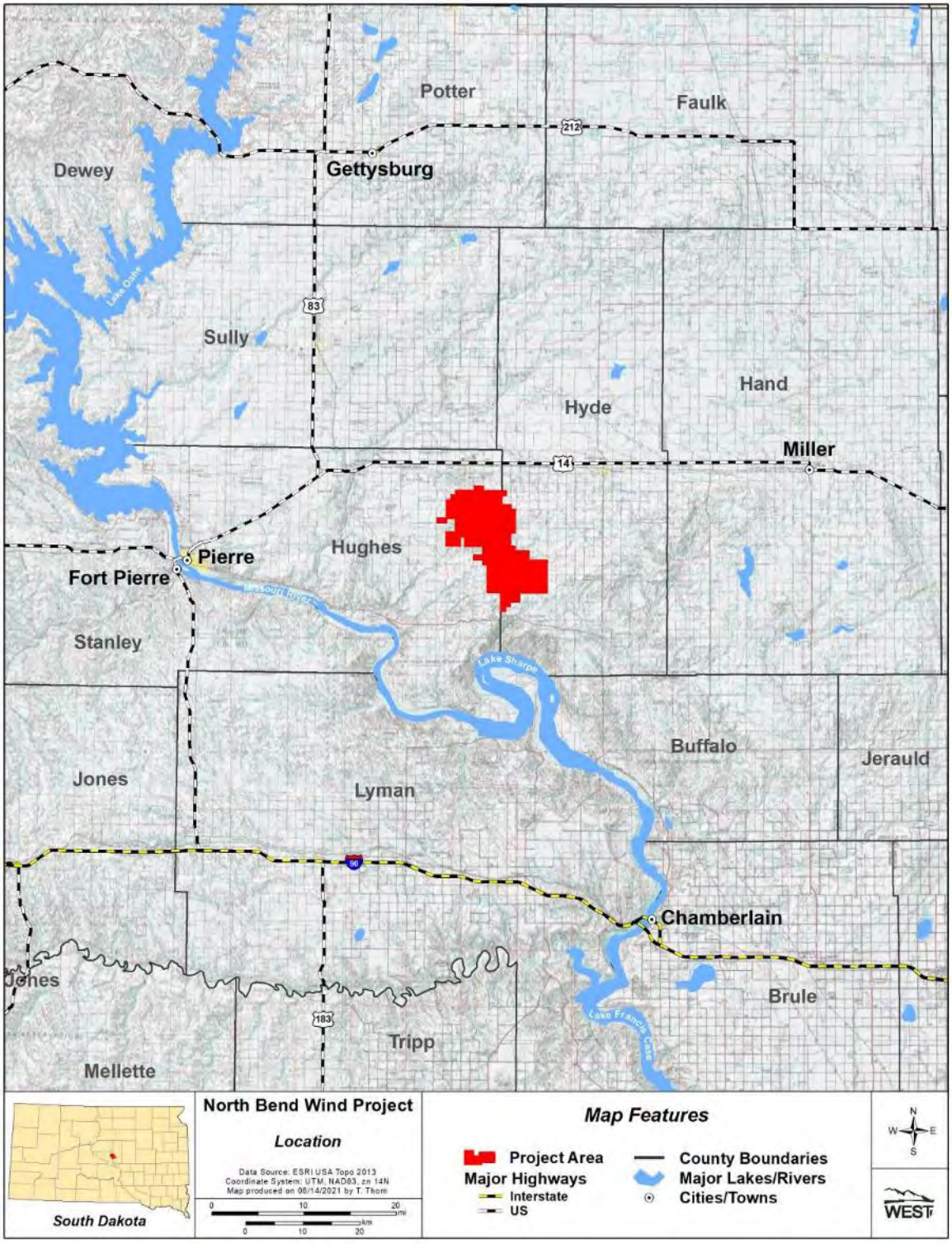

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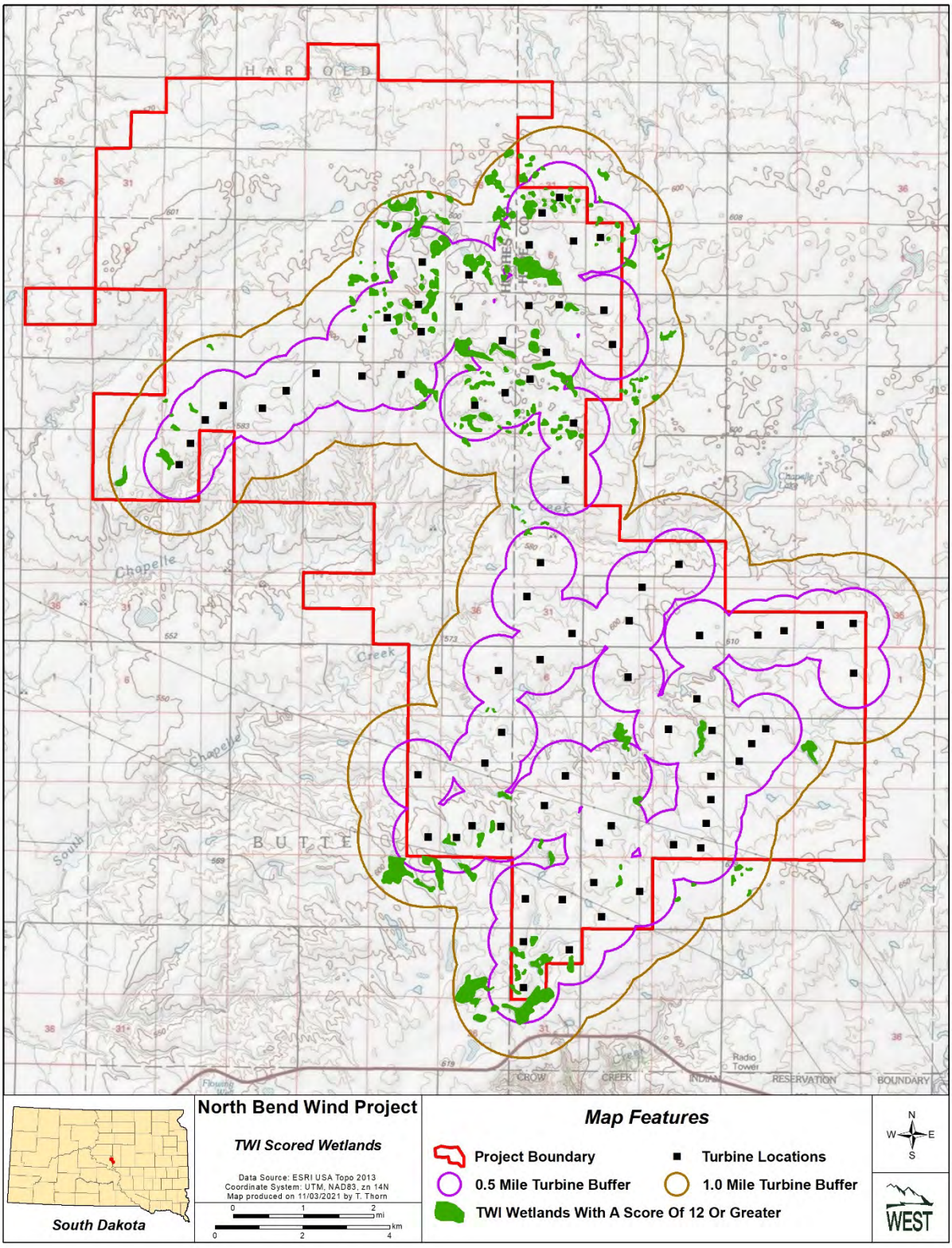

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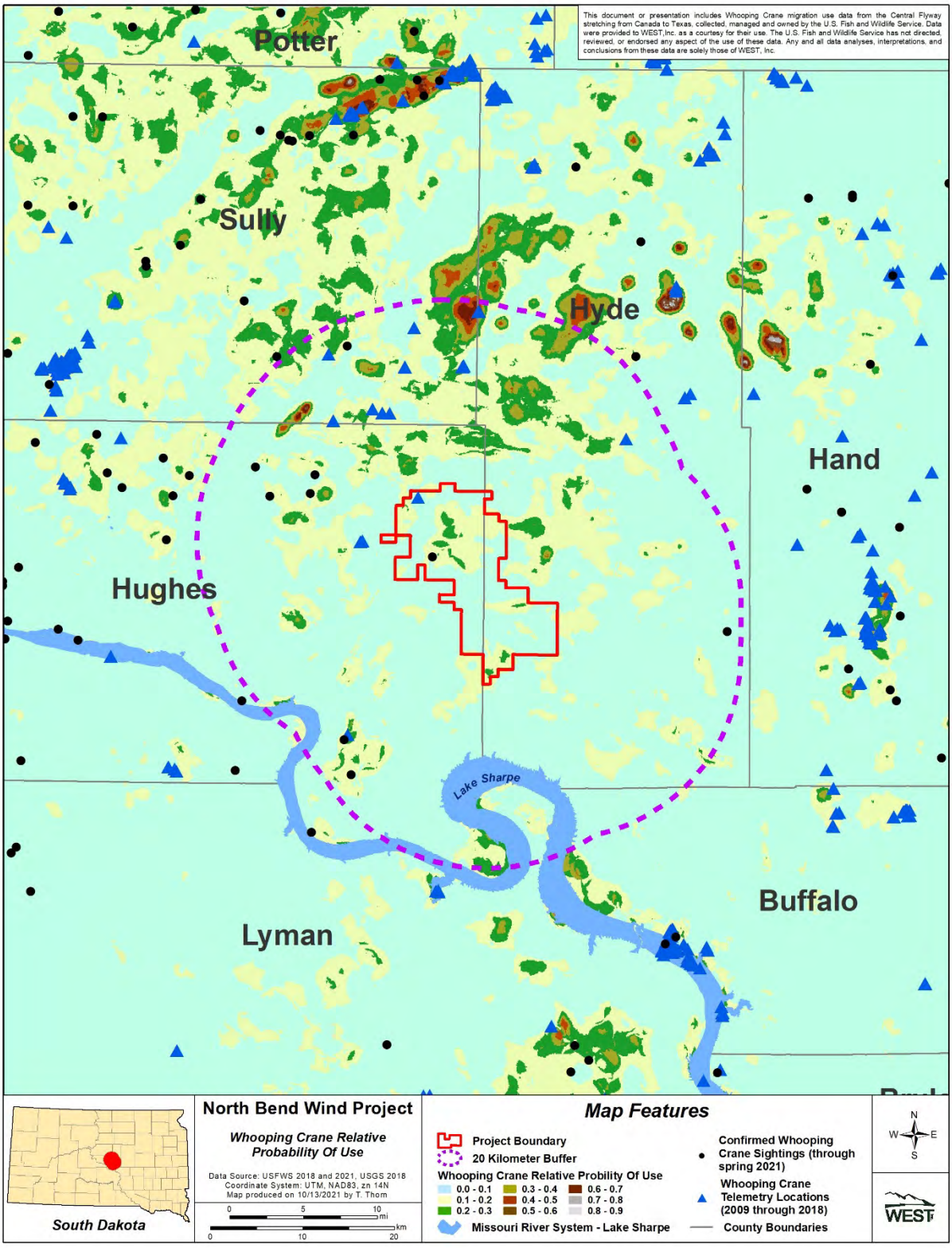

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