

**WHOOPING CRANE MONITORING  
AND CONTINGENCY PLAN**

**Philip Wind Project**

**Haakon County, South Dakota**

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**Final Report**

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## **1 INTRODUCTION**

Philip Wind Partners, LLC (Philip Wind) is considering development of the Philip Wind Project (Project) in Haakon County, South Dakota. Philip Wind has voluntarily prepared a Whooping Crane (*Grus americana*) Monitoring and Contingency Plan (Plan) to minimize potential impacts to whooping cranes during construction and operation of the Project. The objectives of the Plan are to 1) train construction, and operations and maintenance (O&M) personnel on the identification of whooping cranes, 2) describe monitoring for whooping cranes during spring and fall migration, and 3) describe the response to a known or suspected whooping crane sighting. To date, no whooping cranes have been recorded within the Project Area (Figure 1.1).

## **2 NATURAL HISTORY**

The whooping crane was federally listed as threatened in the US in 1967 (32 FR 4001 [March 11, 1967]) and is state listed as endangered in South Dakota (South Dakota Game, Fish, and Parks [SDGFP] 2022). There are currently four non-captive whooping crane populations, but only the Aransas/Wood Buffalo whooping crane population (AWBP) is naturally occurring, self-sustaining, and protected under the ESA (Urbanek and Lewis 2020). The AWBP was estimated at 543 individuals in the most recent (2021–2022) available winter census data (Butler et al. 2022) and the population has remained fairly stable since 2017 (Harrell and Bidwell 2020).

The AWBP breeds in Wood Buffalo National Park in Canada and winters along the Texas coast, including in the Aransas National Wildlife Refuge (NWR; Urbanek and Lewis 2020). The breeding grounds are characterized by numerous potholes (Canadian Wildlife Service and U.S. Fish and Wildlife Service [USFWS] 2007) that form shallow wetlands of various shapes and sizes (Urbanek and Lewis 2020). Wintering grounds at Aransas NWR and adjacent areas of the central Texas coast consist of estuarine marshes, shallow bays, tidal flats (Urbanek and Lewis 2020) and occasionally rangelands or farmlands.

Spring migration ranges between March 25 and mid-May and fall migration ranges between mid-September and mid-November (USFWS 2007). Whooping cranes are daytime migrants and are known to travel individually, in family groups, or in small flocks (up to five individuals), however, larger flocks (six or more individuals) have been observed more frequently in recent decades (Caven et al. 2020). Whooping cranes occasionally join flocks of sandhill cranes (*Antigone canadensis*) for part of their migration (Urbanek and Lewis 2020). Ninety-five percent of whooping crane sightings occur within a 183-mi wide corridor (Pearse et al. 2018) and the Project occurs within the 95% whooping crane migration corridor (Figure 1.1). Migration flights generally occur between 1,000 and 6,000 feet (ft) above the ground, but whooping cranes fly at lower altitudes when starting or ending a migratory flight, especially when thermal currents are minimal or when making brief mid-day stopovers to forage (USFWS 2009).

Whooping cranes are known to choose stopover sites during migration that sandhill cranes are already utilizing (USFWS 2009). On average, migrating whooping cranes make 11 to 12 overnight

stopovers and four multi-day stopovers during each migration season (Pearse et al. 2020). Individuals do not appear to exhibit site fidelity to overnight stopover sites (Pearse et al. 2020), but some areas on the landscape have a higher intensity of stopover use than others (Pearse et al. 2015). Stopover sites provide roosting and foraging areas, typically within 0.6 mi of each other (Urbanek and Lewis 2020) and can include palustrine or lacustrine wetlands, prairie and wet meadows, rivers, and agricultural fields (USFWS 2007).

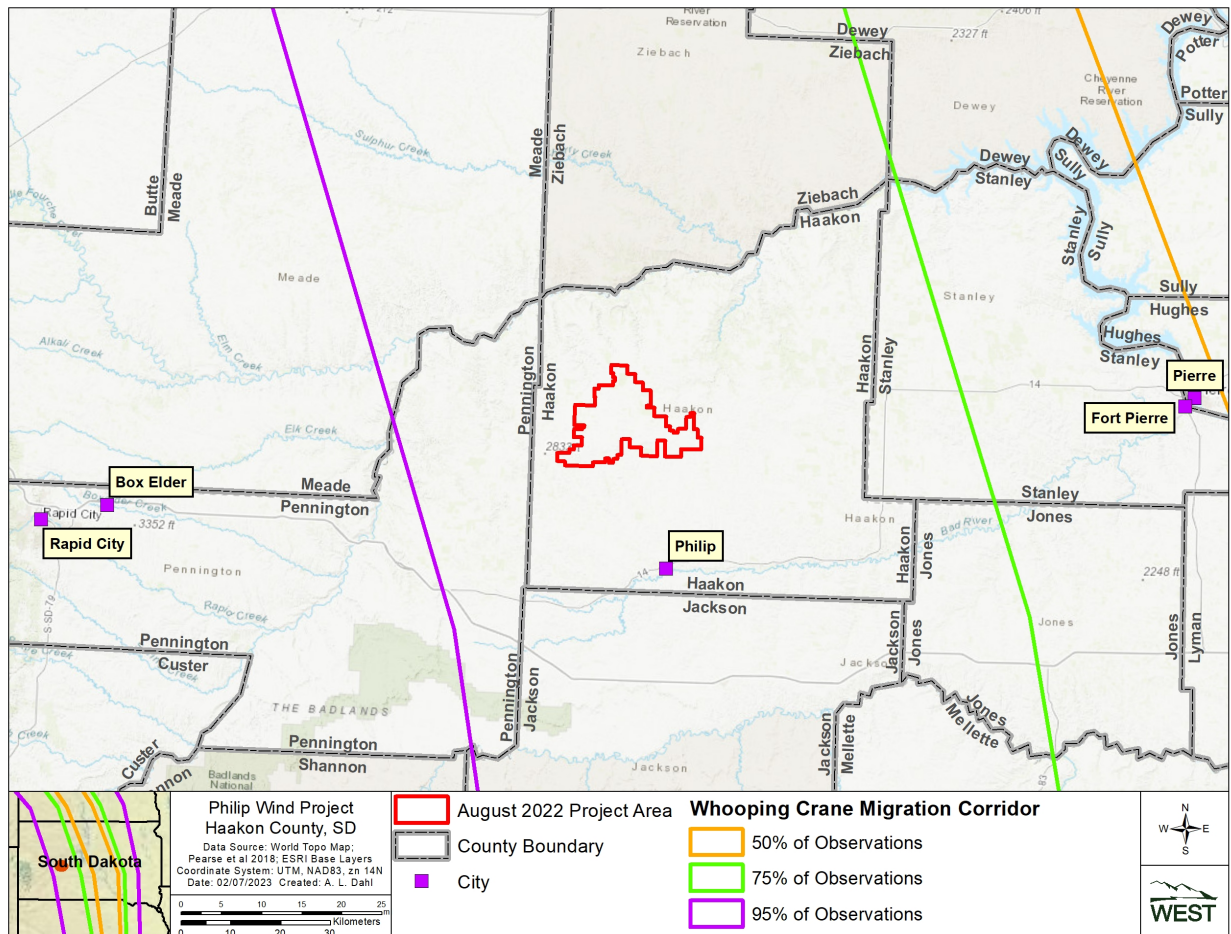


Figure 1.1. Location of the Philip Wind Project in Haakon County, South Dakota within the whooping crane migration corridor.

### 3 EMPLOYEE TRAINING AND MONITORING

All construction and O&M personnel at the Project will be trained to identify whooping cranes and to implement the Plan. Training will be conducted on an annual basis for the life of the Project. A poster of whooping crane identification will be displayed year-round in a common area of the main office building (e.g., kitchen) to aid in the education and identification of the species. Plan training will be documented and kept on file at the O&M building. The following are the minimum topics to be covered during the initial and annual training:

- Natural history and behavior of the whooping crane.
- Identification of whooping crane adults and juveniles (e.g., photographs) and differentiating among similar species (i.e., sandhill crane [*Grus canadensis*], American white pelican [*Pelecanus erythrorhynchos*], great egret [*Ardea alba*], swan [*Cygnus* spp.], and snow goose [*Anser caerulescens*]).
- Avoiding harassing whooping cranes on the ground.
- Reporting and response procedures if a whooping crane is sighted.

Whooping crane monitoring will be focused during the spring (March 25 – May 15) and fall (September 16 – November 15) migration seasons during construction and operation of the Project. Monitoring will take place daily during migration by onsite operations personnel trained in whooping crane identification during regular activities. Philip Wind will provide one set of binoculars to onsite staff at the O&M building to assist with identifying whooping cranes.

#### **4 CONTINGENCY PLAN**

If construction or O&M personnel observe a whooping crane, they will notify the Construction Manager or Site Manager (or their designee) via cell phone or radio who will halt construction or turbine operations within two miles of the observed whooping crane. The observer will continue to monitor at a distance until the whooping crane is no longer within 2 miles of any turbine. The Construction Manager or Site Manager (or their designee) will collect the following information from the observer:

- the number of whooping cranes
- location coordinates (decimal degrees or UTM)
- behavior (i.e., flying, foraging, roosting)
- Approximate flight height

Construction activity or turbine operations will remain halted until the whooping crane is greater than two miles away from the nearest turbine for at least fifteen minutes after which the Construction Manager or Site Manager may authorize restart of construction or turbine operations. The Construction Manager or Site Manager will notify Philip Wind's Environmental Compliance and Strategy (ECS) Lead who will inform the USFWS and SDGFP of any whooping crane observations. Philip Wind will verify contact information for key resources annually.

## 5 KEY RESOURCES

| Name                     | Company/Agency; Role; Location   | Phone Number | When to Contact                                 |
|--------------------------|--|--------------|---|
| <b>Daniel Kim</b>        | US Fish and Wildlife Service; Ecological Services<br>Wildlife Biologist; Pierre, SD            | 605-280-6090 | Sightings or questions                          |
| <b>Mandy Pearson</b>     | South Dakota Game, Fish and Parks; Senior Wildlife<br>Biologist; Rapid City, SD                | 605-394-6052 | Sightings or questions                          |
| <b>Kevin McAbee</b>      | US Fish and Wildlife Service; National Whooping<br>Crane Recovery Coordinator; Denver, CO      | 303-482-7425 | Fatalities or injuries                          |
| <b>Jim McCormick</b>     | South Dakota Game, Fish and Parks; Regional<br>Conservation Officer Supervisor; Rapid City, SD | 605-381-9500 | Fatalities or injuries                          |
| <b>Adam Geigle</b>       | South Dakota Game, Fish and Parks; District<br>Conservation Officer Supervisor; Rapid City, SD | 605-390-1230 | Fatalities or injuries                          |
| <b>Michelle Phillips</b> | Philip Wind Partners, LLC; Environmental<br>Compliance and Strategy Lead<br>Chicago, Illinois  | 251-327-7290 | Sightings, fatalities,<br>injuries or questions |

## 6 LITERATURE CITED

32 Federal Register (FR) 48: 4001. 1967. Native Fish and Wildlife: Endangered Species. Office of the Secretary. 32 FR 4001. March 11, 1967.

Butler, C. R. Sanspree, J. A. Moon, and W. Harrell. 2022. Whooping Crane Survey Results: Winter 2021-2022. Technical Memo, May 2022. Available online: <https://www.fws.gov/media/whooping-crane-update-winter-2021-2022>

Canadian Wildlife Service (CWS) and US Fish and Wildlife Service (USFWS). 2007. International Recovery Plan: Whooping Crane (*Grus americana*). Third Revision. Recovery of Nationally Endangered Wildlife (RENEW), Ottawa, and USFWS, Albuquerque, New Mexico. March 2007. Available online at: [http://ecos.fws.gov/docs/recovery\\_plan/070604\\_v4.pdf](http://ecos.fws.gov/docs/recovery_plan/070604_v4.pdf)

Caven, A.J., M. Rabbe, J. Malzahn, A. E. Lacy. 2020. Trends in the occurrence of large Whooping Crane groups during migration in the great plains, USA. *Heliyon*. Apr 2;6(4):e03549.

Esri. 2023. World Imagery and Aerial Photos (World Topo). ArcGIS Resource Center. Environmental Systems Research Institute (Esri), producers of ArcGIS software, Redlands, California. Accessed January 2023. Available online: <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=10df2279f9684e4a9f6a7f08febac2a9>

Harrell, W. and M. Bidwell. 2020. Report on Whooping Crane Recovery Activities. 2019 Breeding Season-2020 Spring Migration. US Fish and Wildlife Service and Canadian Wildlife Service. November 2020. Available online: [https://www.fws.gov/uploadedFiles/2019-20%20WHCR%20Recovery%20Activities%20Report\\_final.pdf](https://www.fws.gov/uploadedFiles/2019-20%20WHCR%20Recovery%20Activities%20Report_final.pdf)

Pearse, A. T., D. A. Brandt, W. C. Harrell, K. L. Metzger, D. M. Baasch, and T. J. Hefley. 2015. Whooping Crane Stopover Site Use Intensity within the Great Plains. USGS Open-File Report 2015-1166. US Geological Survey (USGS). 12 pp. doi: 10.3133/ofr20151166. Available online: <https://pubs.usgs.gov/of/2015/1166/ofr2015-1166.pdf>

- Pearse, A. T., M. Rabbe, M. T. Bidwell, L. M. Juliusson, L. Craig-Moore, D. A. Brandt, and W. Harrell. 2018. Map of Whooping Crane Migration Corridor. U.S. Geological Survey (USGS) ScienceBase-Catalog, USGS Data Release Products. Available online: <https://data.usgs.gov/datacatalog/data/USGS:5a314a72e4b08e6a89d707e0>
- Pearse, A. T., D. A. Brandt, D. M. Baasch, M. T. Bidwell, J. A. Conkin, M. J. Harner, W. Harrell, and K. L. Metzger. 2020. Location Data for Whooping Cranes of the Aransas-Wood Buffalo Population, 2009-2018. US Geological Survey (USGS) data release. USGS, Reston, Virginia. May 15, 2020. Available online: <https://www.sciencebase.gov/catalog/item/5ea3071582cefae35a19349a>
- South Dakota Game, Fish and Parks (SDGFP). 2022. Threatened and Endangered Species. SDGFP, Pierre, South Dakota. Accessed October 2022. Available online: <https://gfp.sd.gov/threatened-endangered/>
- Urbanek, R. P. and J. C. Lewis. 2020. Whooping Crane (*Grus americana*), Version 1.0. A. F. Poole, ed. *In: Birds of the World*. Cornell Lab of Ornithology, Ithaca, New York. Available online: <http://birdsoftheworld.org/bow/species/whocra/cur/>
- U.S. Fish and Wildlife Service (USFWS). 2007. Whooping Cranes and Wind Farms - Guidance for Assessment of Impacts. Draft July 1, 2007.
- U.S. Fish and Wildlife Service (USFWS). 2009. Whooping Cranes and Wind Development – An Issue Paper. April 2009. 28 pp.