# APPENDIX R

## Whooping Crane Monitoring and Contingency Plan

# WHOOPING CRANE MONITORING AND CONTINGENCY PLAN

## Philip Wind Project

## Haakon County, South Dakota

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**Final**

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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 endangered in 1970, and is considered a species of greatest conservation need 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).

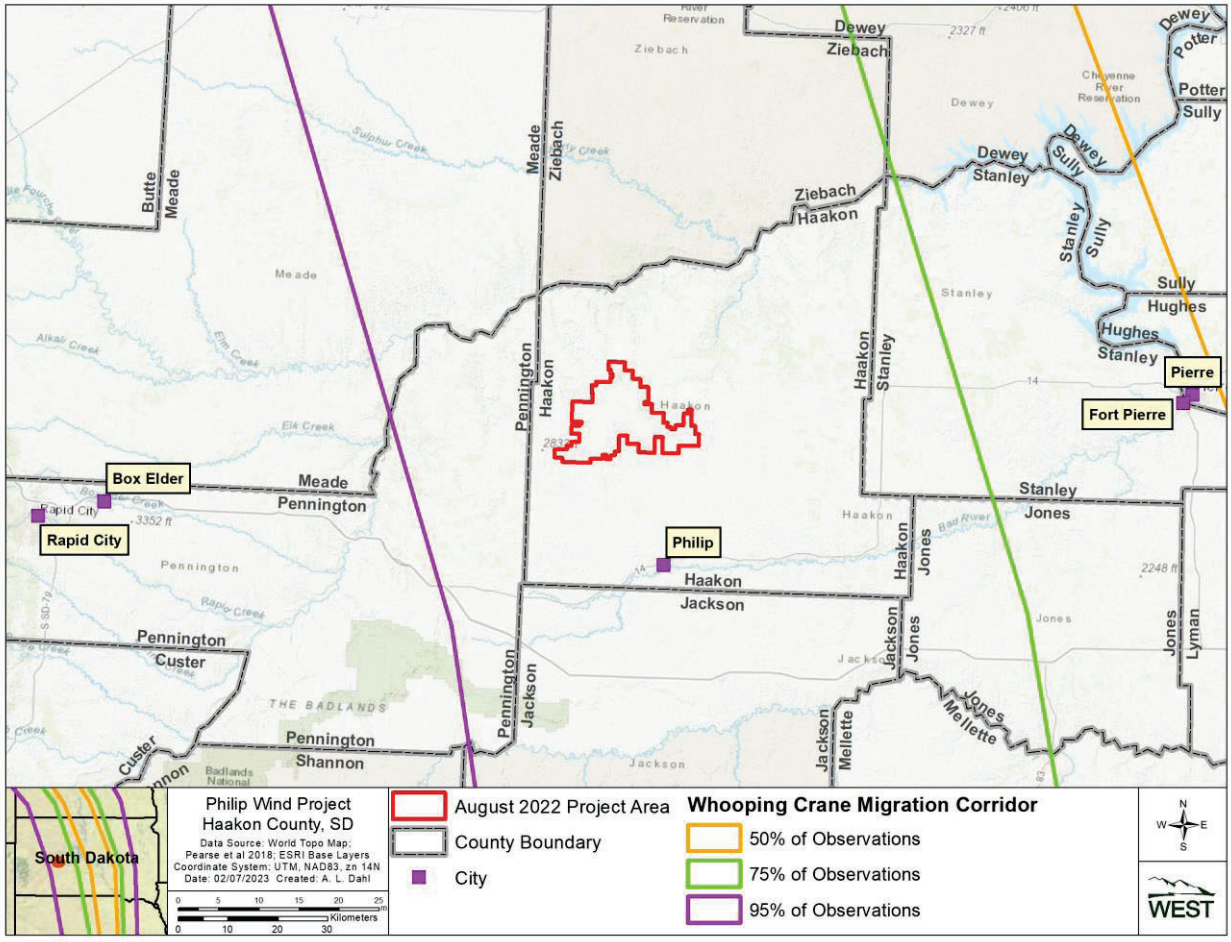


**Figure 1.1. Location of the Philip Wind Project in Haakon County, South Dakota within the whooping crane migration corridor.**

## 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.

Following training, construction and O&M personnel will look for whooping cranes during the course of their regular activities in the spring (March 25 – May 15) and fall (September 16 – November 15) migration seasons during construction and operations of the Project. If any whooping cranes are observed, the number of cranes, location coordinates (decimal degrees or UTM), and behavior (i.e., flying, foraging, roosting) will be recorded. Flocks of sandhill cranes will also be examined closely because whooping cranes sometimes travel with sandhill cranes.

# 4 CONTINGENCY PLAN

If construction or O&M personnel observe a whooping crane within two miles of a turbine at the Project, the Construction Manager or Site Manager (or their designee) will halt construction or turbine operations within two miles of the observed whooping crane until it is greater than two miles away from the nearest turbine. Philip Wind will inform the USFWS of any whooping crane observations.

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