

**Appendix B. Prairie Grouse Lek Survey Results for the Dakota Range III Wind Project  
Roberts and Grant Counties, South Dakota – Final Report September 2018**

**Prairie Grouse Lek Survey Results for the  
Dakota Range III Wind Project  
Roberts and Grant Counties, South Dakota**

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## **INTRODUCTION**

Western EcoSystems Technology, Inc. (WEST) completed a ground-based lek survey at the proposed Dakota Range III Wind Project (Project) in Roberts and Grant Counties, South Dakota (Figure 1). The purpose of this survey was to locate and evaluate 2018 status of prairie-grouse (sharp-tailed grouse [*Tympanuchus phasianellus*] and greater prairie-chicken [*Tympanuchus cupido*]) leks in and near the area proposed for development, so the Project can be designed to avoid or minimize risk of impact to these species. Surveys were completed from late March to early May in 2018 in accordance with protocols outlined in the South Dakota Department of Game, Fish and Parks (SDGFP) Wildlife Survey Manual (SDGFP 2009) and direction received during an October 2017 meeting with the SDGFP and US Fish and Wildlife Service.

## **PROJECT AREA**

The Project consists of approximately 18,601 acres located in the Big Sioux Basin Level IV Ecoregion, which is within the Northern Glaciated Plains Level III Ecoregion (US Environmental Protection Agency 2016). The predominant land cover/use types within the Project consists of approximately 55.8% cultivated crops and 34.6% herbaceous (grassland; US Geological Survey, National Land Cover Database 2011; Figure 1). The remaining land cover/use types account for less than 6.0% of the Project and include developed areas (5.3%), emergent herbaceous wetlands (1.4%), hay/pasture (1.2%), open water (0.8), deciduous forest (0.6), barren land (0.3%), and shrub scrub (<0.1). The most common cultivated croplands in 2017 were corn (*Zea mays*) and soybeans (*Glycine max*; US Department of Agriculture National Agricultural Statistics Service 2017).

## **METHODS**

Prairie grouse are dependent on larger areas of prairie grasslands and conversion of grassland to cultivated agriculture is known to negatively impact distribution and abundance of grouse (SDGFP 2017). Because a large portion of the Project area is cultivated cropland, a desktop assessment of suitable grassland habitat was completed to refine the lek survey area prior to field surveys. Grassland habitats greater than 60 acres were considered to most likely support lekking grouse if present within the Project area. These larger grassland areas were identified based on review of aerial imagery (National Agriculture Imagery Program 2018) and data from the 2017 Crop Data Layer (US Department of Agriculture, National Agriculture Statistical Service 2018). Grassland tracts greater than 60 acres were digitized using ArcGIS 10 and thus comprised the lek survey area within the Project.

Ground-based surveys were completed three times during spring 2018 within the lek survey area: Round 1 was completed from March 29 to April 17, 2018, Round 2 from April 18 to April 28, 2018, and Round 3 from May 10 to May 12, 2018. To the extent possible, surveys were conducted on relatively calm mornings (winds less than 20 miles per hour) with no rain. Historic

lek locations were provided by SDGFP in August 2015 for the Project area and vicinity, which included one sharp-tailed grouse lek approximately 0.75 mi southwest of the Project. This lek location was specifically evaluated three times, during the rounds described above, to determine the current status.

Surveys were completed from 30 minutes prior to sunrise until approximately two hours after sunrise. The field biologist drove public roads around and within each grassland area and stopped every half-mile (805 meters; more often in hilly terrain) for 3-5 min to listen and look for displaying or calling grouse. If a lek was located, visually or by sound, the biologist mapped the location on paper maps and recorded the number of males, females, and birds of unknown sex attending the lek. If visual confirmation could not be achieved, the biologist attempted to triangulate the auditory observation from two or more locations.

Leks were classified as “confirmed” if males were engaged in lek attendance behavior (e.g., dancing, calling) at the same location during more than one survey in 2018 or if observed in 2018 and in previous years at the same location. Leks were classified as “potential” when grouse males were observed in lek attendance behavior during only one survey in 2018. Historic leks were classified as “inactive” if no grouse activity was observed at the location during all three rounds of survey.

## **RESULTS**

Approximately 1,902.5 acres of grassland habitat greater than 60 acres were identified via desktop evaluation of the Project and surveyed for prairie grouse leks (Figure 2). No grouse leks were seen or grouse heard during any of the survey rounds. Thus, no prairie grouse leks were documented within the Project; the historic lek located southwest of the Project was inactive.

## **CONCLUSION**

Lek surveys completed from late March to early May in 2018 indicate absence of prairie grouse leks within the area proposed for development.

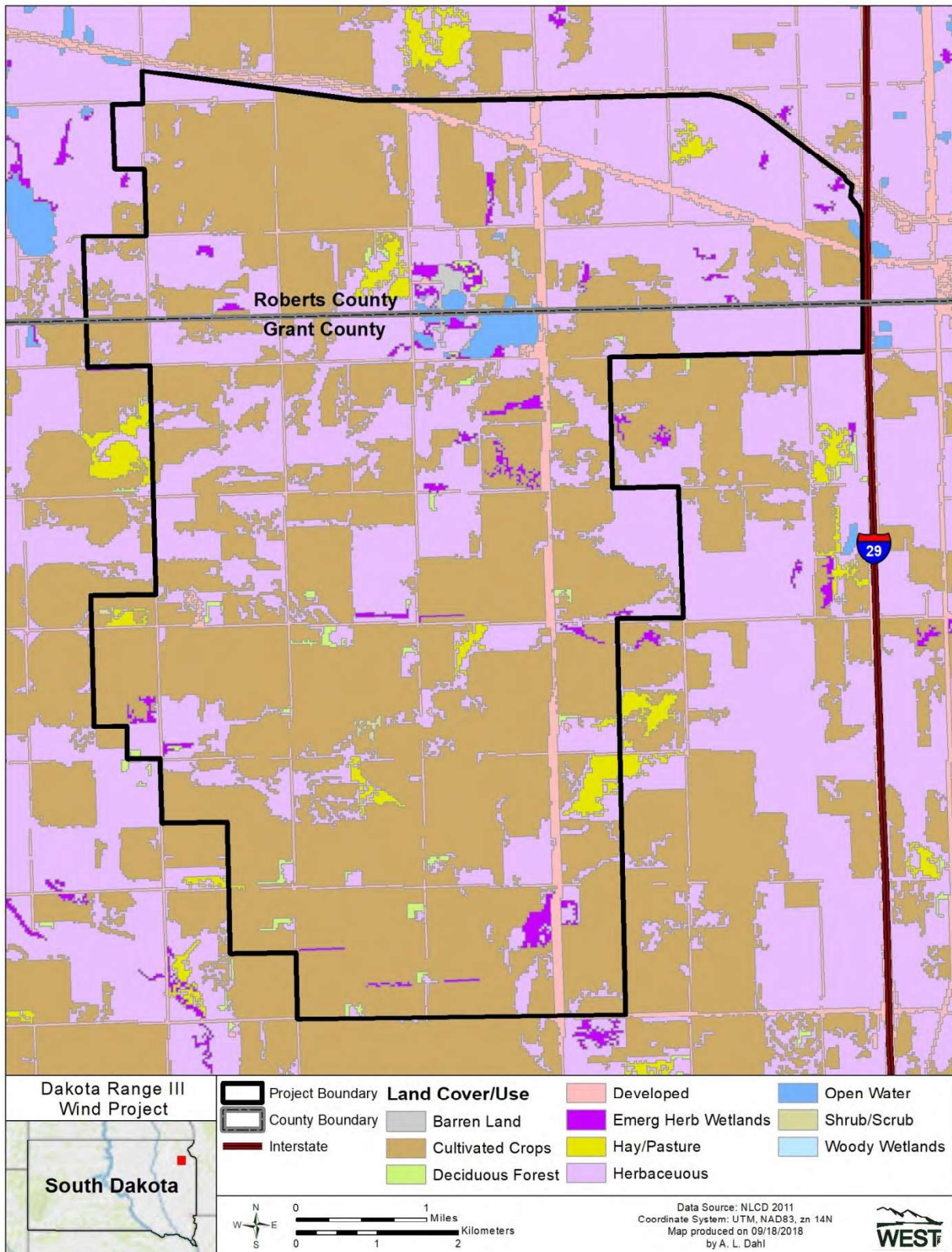


Figure 1. Location and landcover/use classes for the proposed Dakota Range Wind III Project in Roberts and Grant Counties, South Dakota (USGS 2011 and Homer et al. 2015).

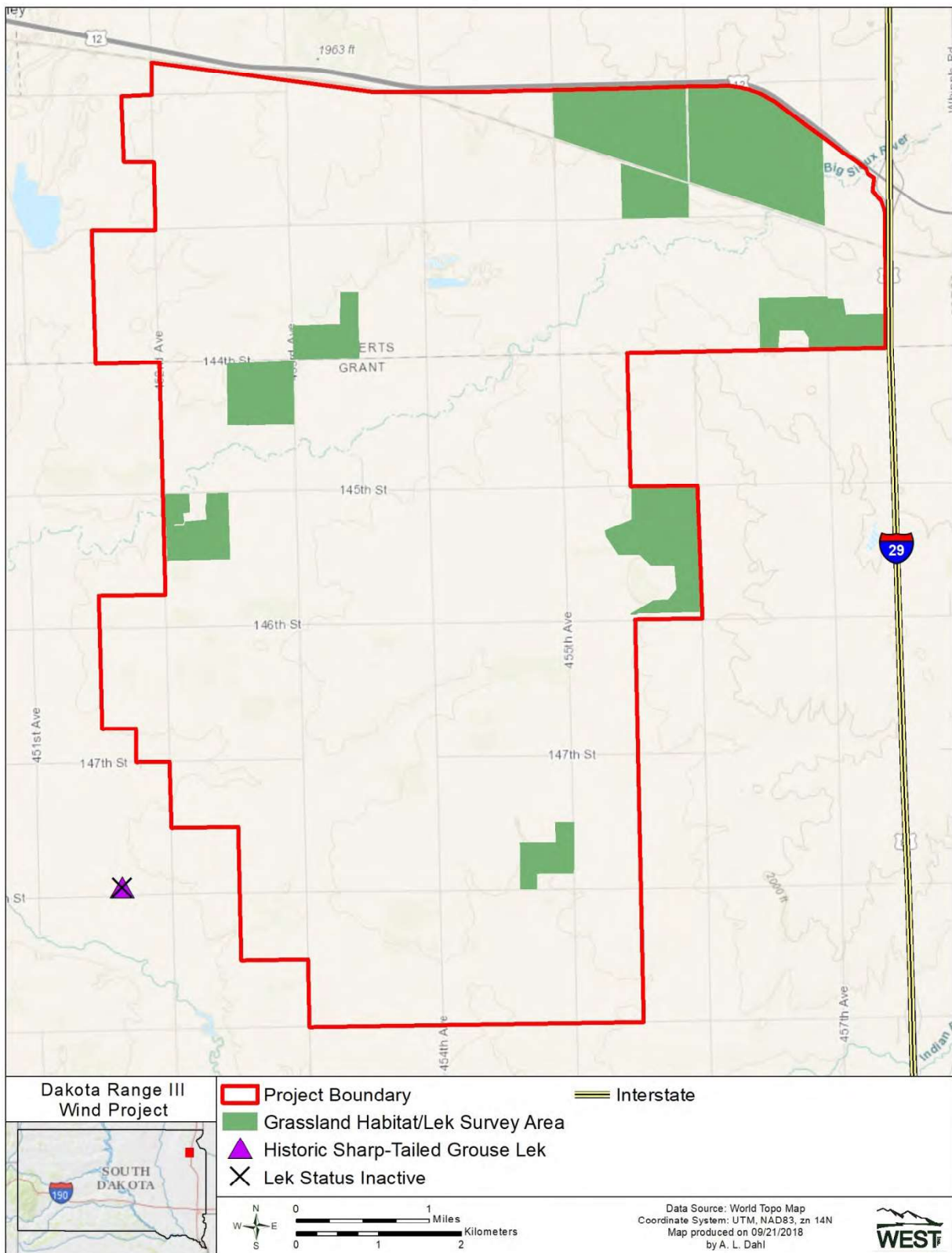


Figure 2. Areas of grassland and historic lek location included in spring 2018 lek surveys within the proposed Dakota Range III Wind Project in Roberts and Grant Counties, South Dakota.

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