

TO: NextEra Energy Resources, LLC
FROM: Tetra Tech
DATE: 5/2/2016
SUBJECT: Brady II Wind Energy Center Grouse Lek Survey Report

Introduction

Brady Wind II, LLC (Brady Wind II), a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra) is developing the Brady II Wind Energy Center (Project) located in Hettinger and Stark counties, North Dakota (Figure 1). Brady II Wind is committed to environmental due diligence and has contracted Tetra Tech, Inc. (Tetra Tech) to conduct sharp-tailed grouse lek surveys in the proposed Study Area and a 1-mile buffer around the Study Area (Figure 1).

Sharp-tailed grouse (*Tympanuchus phasianellus*) are identified as Species of Conservation Priority in North Dakota's Wildlife Action Plan (Wildlife Action Plan). Species within the Wildlife Action Plan are categorized into three levels according to their conservation need. Sharp-tailed grouse are considered Level II Species, which are those species having a moderate level of conservation priority, or a high level of conservation priority, but a substantial level of non-state wildlife grant funding is available to them. Sharp-tailed grouse have experienced population declines linked to landscape level land use changes, primarily due to habitat loss through the conversion of grasslands to cropland. State and federal wildlife agencies have regularly expressed concern about the locations of wind turbines with respect to prairie grouse leks (communal male displaying grounds).

At NextEra's request, Tetra Tech, Inc. (Tetra Tech) requested the location of any known sharp-tailed grouse leks from the North Dakota Game and Fish Department (NDGF) on January 11, 2016. NDGF responded on February 3, 2016 that there are no documented leks in the Study Area or vicinity, but noted that the area has not been surveyed by NDGF. NDGF recommended that they help design the survey protocol. Tetra Tech provided the proposed protocol to NDGF on February 8, 2016, and received feedback from NDGF on March 9, 2016. NDGF supplied their standard protocol and suggested that Tetra Tech modify the survey protocol provided to NDGF so that listening stops be made every 0.5 mile rather than every 1 mile in all areas with grassland habitat.

The objective of the grouse lek surveys was to document all sharp-tailed grouse leks within the Study Area and 1-mile buffer. Tetra Tech protocols for the grouse lek surveys were designed to be responsive to the level of effort recommended in Tier 3 of the voluntary U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines (WEG; USFWS 2012).

Methods

Prior to the field surveys, Tetra Tech prepared a preliminary desktop habitat assessment using the National Land Cover Database and aerial imagery to delineate suitable lek habitat within the Study Area and a 1-mile buffer around the Study Area. Open areas with grassland habitat were classified as suitable lek habitat. Preliminary listening stations were then mapped along public roads adjacent to suitable habitat. Based on this assessment, we identified 122 potential listening stations within the Study Area and 1-mile buffer. Habitat suitability was verified and access to the listening stations along the lek survey route was ground-truthed by biologists during spring raptor nest surveys conducted in the Study Area and 1-mile buffer and during the first day of the lek surveys.

Ground surveys were conducted along public access roads in suitable habitat within the Study Area and 1-mile buffer. Two separate rounds of lek surveys were conducted. The first round of surveys occurred between April 6 and 12, 2016. The second round of surveys occurred between April 25 and 29, 2016. Surveys were conducted from 0.5 hours before sunrise to 2 hours after sunrise, to coincide with peak lekking activity. During the surveys, observers stopped at listening stations located 0.5 mile apart for a minimum of 3 minutes, during which time the observer systematically scanned and listened for displaying sharp-tailed grouse. Observed leks were mapped and numbers of males and females were counted, if possible. Per standard protocol, the lek surveys were not conducted when winds exceeded 20 miles per hour, or if there was any type of precipitation event.

Results

Of the 122 listening stations identified during the desktop analysis, 78 were accessible by public roads, occurred in suitable habitat, and were surveyed. These listening stations were each surveyed twice between April 6 and April 29. Four sharp-tailed grouse leks were documented in the Study Area and a 1-mile buffer during the surveys (Figure 1). Two leks were detected during the first round of surveys (2016_01 and 2016_02), and all four leks were detected during the second round. The number of grouse observed at each lek ranged from 7 to 26 individuals. A total of 88 birds (46 males, 26 females, and 16 unknown) were recorded at the leks during the first round, and 85 birds (72 males, 5 females, and 8 unknown) were recorded at the leks during the second round, although this is a minimum count, as not all birds were visible from the road.

References

USFWS (United States Fish and Wildlife Service). 2012. Land-based Wind Energy Guidelines. Available online at: http://www.fws.gov/windenergy/docs/WEG_final.pdf

