

Appendix I. Iowa Department of Natural Resources Environmental Review (IDNR)



10/18/2023

BETHANY HANAK
WESTERN ECOSYSTEMS TECHNOLOGY, INC
150 CORPORATE CENTER DRIVE
SUITE 106
CAMP HILL, PA 17011

RE: Environmental Review for Natural Resources 2023-1382ER-01
Project Description: Wind Farm
Project Counties: Carroll and Crawford
Project Latitude / Longitude Location(s): 42.0158/-95.0793
Project Legal Description: Sec. 18/T84N/R36W

Dear Bethany Hanak:

Thank you for inviting the Department's comments on the impact of this project. The Department has searched records for state- and federal-listed endangered or threatened species, rare natural communities, sensitive habitat, and state lands and waters in a proposed project area. Recommendations based on the Department's review of records and data available at the time of this request follow.

In order to minimize the chances for wind tower mortality of both birds and bats the Department strongly recommends that turbines are sited a minimum of one mile from state and county-owned areas or complexes. Additionally, we recommend a two-mile buffer of public land complexes that are over 2,000 acres. Statewide GIS information about public conservation lands and Bird Conservation Areas is available on the Department's website at <https://geodata.iowa.gov/> under Administrative and Political Boundaries and Biologic and Ecologic headings, respectively.

To minimize chances for wind tower mortality of both birds and bats, it is recommended that no wind turbines be placed in or near woodland/grassland, or grassland/wetland habitats that are 40-acre tracts or larger. The Department recommends buffering such tracts of habitat 40-acres or larger by one-half mile. A number of areas of habitat greater than 40-acres are mapped within or adjacent to the proposed project boundary. The recommended ½ mile buffer would impact all, or portions of Sec. 34/T84N/R37W and Sec. 3, 9, 10, 25 and 36/T83N/R37W in Crawford County. The buffer would also impact portions of Sec. 30 and 31/T83N/R36W. As well as Sec. 19/T84N/R36W in Carroll County.

The Department has searched Natural Areas Inventory records for the project area and found no site-specific records of rare species or significant natural communities that could be impacted by this project. However, Department data are not the result of thorough field surveys. These species are associated with several habitats, including wooded river and stream corridors, prairie remnants, and wetlands. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

It is in the Project developer's interest to avoid potential conflict with federal and state-listed threatened and endangered animal species; allow a one-mile buffer from natural areas as described above would minimize

interaction between threatened and endangered species and the proposed wind energy Project. Although turbine locations are currently unknown, locations might exceed the minimum recommended buffer of one mile. The Department strongly urges the developer to consider sites for these turbines beyond the one-mile buffer.

Although the Department does not regulate wind farms, there are concerns regarding potential adverse impacts to bird and bat populations associated with wind farms beyond mortality associated with turbine collisions. Given the possibility of habitat avoidance, the Department strongly recommends a one-mile buffer between turbines and natural resource areas, including riparian corridors.

In order to minimize chances for wind tower mortality of eagles a 5-mile buffer around known eagle nest sites is recommended.

The Department has the following recent records for nesting raptors in the Project area:

Sec. 36/T84N/R38W of Crawford County. The recommended 5-mile buffer would impact Sec. 34 and 35/T84N/R37W in Crawford County, or portions thereof. The buffer would also impact Sec. 2, 3, 9, 10, 15, 16, 20 and 21/T83N/R37W of Crawford County, or portions thereof. Any newly documented nests are recommended to have a 5-mile buffer.

The Department also recommends bird and bat use and interactions with wind turbines and supporting facilities are monitored for an adequate period. The Department recommends one season of pre-construction surveys to assess bird and bat use (including spring and fall migration times) of the Project area. Presence of bat habitats should also be noted and an evaluation made of bat foraging activity in and around the proposed site. Pre-construction survey methodology was developed by Natural Resource Consulting, Incorporated, and accepted by the Department in May, 2008. The methodology is included here as an attachment.

The Department recommends completion of at least two years of post-construction surveys using accepted standard methods. The post-construction monitoring should evaluate collisions and mortality that occur to determine whether the facility can be modified to prevent future collisions, or if mitigation is needed. Wildlife avoidance and other behavioral changes should also be evaluated. An adaptive management approach to planning, design, construction and operations is highly recommended. Additional information titled *Wind Energy and Wildlife Resource Management in Iowa: Avoiding Potential Conflicts* is available here as an attachment and from the Department website at

<http://www.iowadnr.gov/Environment/WildlifeStewardship/NonGameWildlife/Conservation/WindandWildlife.aspx>.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include comment from the Environmental Services Division of this Department. This letter does not constitute a permit. Other permits may be required from the Department or other state or federal agencies before work begins on this project.

Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project:

If you have questions about this letter or require further information, please contact me at 515-330-6432.

Sincerely,

Casey Laskowski
Environmental Specialist
Conservation and Recreation Division

Enclosures

Suggested References

- Anderson, R, M Morrison, K Sinclair, D Strickland, H Davis, and W Kendall. 1999. Studying wind energy/bird interactions: a guidance document. Metrics and methods for determining or monitoring potential impacts on birds at existing and proposed wind energy sites. Avian Subcommittee, National Wind Coordinating Committee, Washington, DC. 87 pp.
- Jain, AA. 2005. Bird and bat behavior and mortality at a northern Iowa windfarm. M.S. Thesis, Iowa State Univ., Ames. 108pp.
- Kerns, J, WP Erickson, and EB Arnett. 2005. Bat and bird fatality at wind energy facilities in Pennsylvania and West Virginia. Pages 24–95 in E. B. Arnett, editor. Relationships between bats and wind turbines in Pennsylvania and West Virginia: an assessment of bat fatality search protocols, patterns of fatality, and behavioral interactions with wind turbines. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International, Austin, Texas, USA.

CC:

Wildlife Biologist, Wildlife Bureau, Iowa DNR Amber Schorg,
U.S. Fish and Wildlife Service, Rock Island Field Office

Natural Resources Consulting, Inc. Pre-Construction Avian Survey Methods for Wind Projects, May 2008

Pre-construction bird surveys consist of one year of standardized pre-construction roadside point count surveys conducted within the project area. Four surveys are conducted during each of four seasons (16 total surveys), including fall migration, winter, spring migration, and the breeding season. These surveys are considered screening level bird surveys and the optimal survey period within each of the four seasons is targeted.

Point count stations are selected using a random sampling design stratified by dominant landcover types within the project area. Station locations are then adjusted for road locations, traffic volume, and residence locations.

Individual point count periods are five minutes long, and all birds detected by sight or sound (singing/calling) are identified to species and tallied on standardized data forms at each point count station. Because the landscape is open at most wind projects, bird detections are recorded relative to a point count radius of 100 meters (i.e. bird within 100 m and birds beyond 100 m are recorded separately at each point count station). Notes on general habitat types within each 100 m radius point count station are recorded.

Surveys begin around sunrise and continue until all point count stations within the project area are covered. The survey order of point count stations (i.e. beginning and ending points) is alternated on each visit so that all points are surveyed during the most optimal time of day (i.e. early morning). Weather conditions (e.g., temperature, cloud cover, wind) are recorded at the beginning and end of the survey route for each survey day. Surveys are not completed when it is raining or when winds are more than a Category 3 on Beaufort Wind Scale (> 12 mph).

Additional behavioral observations of special status species (i.e., endangered, threatened, or species of special concern), waterbirds (i.e., waterfowl, grebes, cormorants, cranes, herons, egrets, rails, plovers, shorebirds, and gulls) and raptors (i.e. hawks, owls, eagles) are recorded. These species tend to be at a higher risk of collision with wind turbine blades; therefore, behavior (e.g., flying, perching, hunting, displaying, vocalizing) of these species are observed and recorded. When individuals from these bird groups are observed flying, an estimate of flight height is recorded in relation to proposed wind turbine design (i.e. below, within, or above the rotor swept area).

Natural Resources Consulting, Inc. Pre-Construction Bat Survey Methods for Wind Projects, May 2008

Pre-construction bat surveys incorporate stationary and mobile Anabat echolocation detectors, which have been proven to be acceptable methodology for bat/wind farm screening. The use and orientation of these detectors depend on the stationary and mobile locations selected. Stationary detectors are mounted upon one (1) meteorological (MET) tower.

Three detectors are deployed on the tower, at varying heights (50 m MET = 6.5 ft, 72 ft (tree canopy), and ~160 ft (within the turbine rotor-swept area); 80 m MET = 6.5 ft, 72 ft (tree canopy), and ~262 ft (within the turbine rotor-swept area)), in a vertical transect to capture information about bat species flying at higher altitudes. These will be deployed and active sun-down to sun-up from April through October (~214 days). Data are downloaded weekly from the detectors.

Surveys with mobile hand-held Anabat detectors are used to supplement stationary surveys. Mobile surveys will be conducted; specified transects are walked or driven by surveyors, while holding the mobile bat call detector or mounting it on the vehicle.

Mobile units are accompanied by a geographic positioning system (GPS) that records geographic location each time a bat call is detected. Although the limited range of the hand-held units only detects bats in the lower altitudes of the project area, it allows the presence of species in other portions of the project area (not captured by detectors on MET towers) to be surveyed. Hand-held surveys are conducted five times per season (spring, summer, fall), resulting in a total of 15 surveys.

Iowa Department of Natural Resources Post Construction Bat and Bird Mortality Survey Methods, September 2010

The Department recommends post construction mortality surveys be conducted at 20% of the turbines selected randomly and at 5% of randomly selected turbines located nearest forest or riparian habitats. If there are no forest or riparian habits within 3 miles of the Project area the survey should be done on 25% of randomly selected turbines.

The surveys will be conducted daily for two week periods in spring, summer, and fall for a total of six weeks. Survey periods are as follows:

- Spring – between April 5 and 25
- Summer – between June 5 and 30
- Fall – between August 20 and September 15

Searcher efficiency will be quantified to adjust the estimate of total fatalities for observer detection bias according to methods described by Kerns et al. (2006).



3/27/2024

BETHANY HANAK
WESTERN ECOSYSTEMS TECHNOLOGY, INC
150 CORPORATE CENTER DRIVE
SUITE 106
CAMP HILL, PA 17011

RE: Environmental Review for Natural Resources 2024-0135ER-01
Project Description: Resubmission of project with tracking number 2023-1382 with an updated project boundary
Project Location:
Project County: Carroll
Project Latitude / Longitude Location(s): 42.0147/-95.0835
Project Legal Description: Sec. 18/T84N/R36W

Dear Bethany Hanak,

Thank you for inviting Department comment on the impact of this project and the updated boundary. The Department has searched for records of rare species and significant natural communities in the project area and found no site-specific records that would be impacted by this project. However, these records and data are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required. If the construction plans change, the Department should be contacted for another review. The Department's comments on the updated boundary are the following:

In order to minimize the chances for wind tower mortality of both birds and bats the Department recommends a 1-mile buffer of all public lands within or adjacent to the project area. Additionally, we recommend a 2-mile buffer of public land complexes that are over 2,000 acres. There are no public lands within or adjacent to the submitted project boundary.

In order to minimize chances for wind tower mortality of eagles a 5-mile buffer around known eagle nest sites is recommended. Known bald eagle nests within or adjacent to the submitted project boundary occur in T84NR38W Section 36, T82NR38W Section 24 and T83NR39W Section 31 of Crawford County. Any newly documented nests are recommended to have a 5-mile buffer.

Additionally, to minimize chances for wind tower mortality of both birds and bats, it is recommended that no wind turbines be placed in or near woodland/grassland, or grassland/wetland habitats that are 40-acre tracts or larger. We recommend buffering such tracts of habitat 40 acres or larger by one-half mile. A number of areas of habitat greater than 40-acres are mapped within or adjacent to the proposed project boundary. We recommend a 0.5 mile buffer of these areas.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include comment from the Environmental Services Division of this Department. This letter does not constitute a permit. Other permits may be required from the Department or other state or federal agencies before work begins on this project.

Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project: 2024-0135ER-01 .

If you have questions about this letter or require further information, please contact me at 515-330-6432.

Sincerely,

Casey Laskowski
Environmental Specialist
Conservation and Recreation Division