



NATIVE ENDANGERED SPECIES RECOVERY

Permit Number: ESPER0011726

Version Number: 0

Effective: 2021-08-06 **Expires:** 2025-09-01

Issuing Office:

Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

ES Bloomington Permit Office

5600 American Boulevard, West, Suite 990

Bloomington, Minnesota 55437-1458

permitsR3ES@fws.gov

Digitally signed by

FWS T&E Chief

Permittee:

Empire District Electric Company

602 S. Joplin Ave

Joplin, Missouri 64801

U.S.A.

Authority: Statutes and Regulations: 16 U.S.C. 1539a 50 CFR 17.22, 50 CFR 13

Location where authorized activity may be conducted:

Missouri

Reporting requirements:

See permit conditions for reporting requirements.

Annual reports are due by 1/31 of each year this permit is in effect.

Authorizations and Conditions:

A. General Conditions set out in Subpart B of 50 CFR 13, and specific Conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable Conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local, tribal, or other Federal law.



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C. The Bald and Golden Eagle Protection Act (BGEPA) provides protection for bald and golden eagles by prohibiting take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport or export/import of any eagle, alive or dead, including any part, next, or egg, unless authorized by a BGEPA permit. 16 U.S.C. § 668, et seq., 50 C.F.R. Part 22. This Permit does not address eagles and thus does not authorize any act prohibited by BGEPA, including but not limited to take of bald or golden eagles. The Permittee has applied for a BGEPA permit in January 2020 to address the project's risk of eagle take. The Permittee shall implement their Bird and Bat Conservation Strategy and include reports of any bald eagle or golden eagle take at the Project.

D. Valid for use by Permittee named above for research at Kings Point Wind Project and North Fork Wind Project.

D.1. The authority issued to the Permittee applies to the Permittee's officers, directors, employees, agents, subsidiaries, contractors, and subcontractors. The Permittee is liable for any permit violations that occur by any of the persons and/or entities referenced under Condition D., or by any other persons and/or entities under the control of the Permittee.

D.2. The Missouri Department of Conservation (Condition M.3.) shall be copied on notifications and reports to the USFWS and notified in advance of meetings between the Permittee and USFWS.

D.3. Unnamed trained field assistants conducting salvage activities must have same day access to biologists with separate 10(a)1(A) recovery permits for identifying gray bats that can verify the ID of all carcasses by photo or measurement. Carcasses that cannot be identified remotely must be identified by the permitted bat biologists when they visit the site. When a carcass cannot be identified, the USFWS Missouri Field Office must be notified (Condition M.2) within 48 hours that an unknown species was taken and given an estimate on when the species identification will occur. If a carcass cannot be visually identified, Permittee will arrange for genetic species identification (Condition K.1).

E. Acceptance of this permit serves as evidence that the Permittee understands and agrees to abide by the terms of this permit and all sections of Title 50 Code of Federal Regulations, Parts 13 and 17, pertinent to issued permits (<https://www.fws.gov/permits/ltr/ltr.html>). Section 11 of the Endangered Species Act of 1973, as amended, provides for civil and criminal penalties for failure to comply with permit Conditions.

F. Permittee is authorized to take (kill, salvage) gray bat (*Myotis grisescens*) for scientific research to enhance the survival of the species in the wild. Impacts to other Federally listed bat species are not anticipated or authorized.

G. Authorized Take: Take due to research activities is authorized at the Kings Point Wind Project and North Fork Ridge Wind Project in Barton, Dade, Lawrence, and Jasper Counties, Missouri from March 1 through November 15th for each year this permit is in effect. To assess the effectiveness of activity-based smart curtailment, the Permittee is authorized to lethally take gray bats annually, as detailed in the table below, from operating wind turbines in accordance with the study plan and authorizations and conditions of this permit.

| Authorized take of gray bats | Study Phase I Calculated/bat in hand | Study Phase II Calculated/bat in hand |
|-------------------------------|---|--|
| Kings Point Wind Project | 251/46 | 230/43 |
| North Fork Ridge Wind Project | 164/30 | 150/28 |



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- G.1. Take shall be calculated annually using GenEst and Evidence of Absence (EOA) software. Fatality estimates of gray bats will be made using data from carcass searches and EOA software. The software and user manual for GenEst may be obtained at: <https://pubs.er.usgs.gov/publication/tm7C19>. The software and user manual for EOA may be obtained at: <https://pubs.er.usgs.gov/publication/ds881>. Variance and 90% confidence intervals will be calculated as well.
- G.2. If the Permittee's lethal take of gray bats meets the authorized number of specimens (either by meeting the 'bat-in-hand' limit or is estimated to meet the calculated limit using GenEst and EoA Software), the Permittee shall cease implementing the study plan and return to operations covered in their Technical Assistance Letter (TAL). Specifically, if Kings Point Wind Project meets the authorized take limit for that project (Condition G), then they will operate according to the Kings Point TAL dated May 10, 2019. Similarly, if North Fork Ridge Wind Project meets the authorized take limit for that project (Condition G), then they will operate according to the North Fork Ridge TAL dated June 6th, 2019. The TALs outline how turbines may operate such that take of Federally listed bat species is unlikely and may be updated if new information regarding the effectiveness of operating parameters in avoiding impacts to Federally listed bats becomes available. If take limits are met, notification shall be provided to the U.S. Fish and Wildlife Service Missouri Ecological Services Field Office (Condition M.2) and the Regional Office (Condition M.1) within 48 hours of determining take limits have been reached.
- G.3. If a fatality of a Federally listed bat species other than gray bat is discovered at Kings Point Wind Project or North Fork Ridge Project the permittee shall cease implementing the study plan at the facility where the fatality occurred and contact the U.S. Fish and Wildlife Service Missouri Ecological Services Field Office (Condition M.2) and the Regional Office (Condition M.1) within 48 hours.
- H. Study Design and Coordination: Permittee shall conduct research as described in the application dated February 2, 2021, including the submitted study plan as conditioned herein. In the event of a conflict between the terms and conditions of this permit and the study plan, the terms and conditions of this permit shall govern.
- H.1. Acoustic bat detectors shall be deployed on the nacelles of 15 turbines at Kings Point Wind Project, and 15 turbines at North Fork Ridge Wind Project and detectors shall be programmed to record bat passes starting from 45 minutes before sunset until 45 minutes after sunrise every night throughout the study period (March 1 through November 15th).
- H.2. Every acoustic detector will be checked at least once each season (as defined as spring, April-1-May 31st; summer, June 1- August 31st; and fall, September 1-November 15th) throughout each year the permit is in effect to inspect functionality and ensure recording equipment is working and data are being saved as expected.
- H.3. Turbines will be assigned to treatment groups as explained in the agreed upon study plan. Treatment groups will be in effect from April 1st through October 31st from 30 minutes before sunset, until 30 minutes after sunrise when ambient air temperature is at or above 50°C. Any changes to the distribution of treatment groups must be approved by the USFWS Missouri Ecological Services Field Office (Condition M.2) in writing.
- H.4. Permittee shall coordinate activities with the USFWS Missouri Ecological Services Field Office (Condition M.2.) by email at least each season, during the study period and shall provide seasonal reports as follows: by June 21st covering April 15-May 31st, by September 21st, for June 1-August 31, and by November 21st for September 1st-November 15th. Seasonal reports shall include the numbers of bat and bird fatalities by species, results of bias trials for the previous season, notification of any monitoring adjustments made as a result of previous bias trials or otherwise, and explanation of any acoustic detectors, or turbines that were identified as malfunctioning.



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H.5. Any modification to the study design (including but not limited to turbine operations, level of monitoring effort, acoustic detectors) must be approved by the USFWS Missouri Ecological Services Field Office (Condition M.2.) in writing.

I. Standardized carcass searches: Searches will occur, a minimum of, twice a week from April 1 through October 31, at Kings Point Wind Project and North Fork Ridge Wind Project, for each year this permit is in effect. Searches shall be conducted as outlined in the application study plan, and as conditioned herein:

- I.1. Standardized carcass searches shall be designed such that the average probability of detection (g), as calculated using EOA, is expected to be a minimum point estimate of 0.2 for each study phase.
- I.2. Searcher efficiency and carcass removal trials shall be conducted each season as defined in the study plan, and results will be incorporated into the mortality estimator. Results of bias trials from the previous year shall be used to evaluate the seasonal probability of detection and adjust search effort for the next season accordingly (for example, decrease days between searches).
- I.3. All individuals conducting carcass searches shall be trained in proper search techniques.
- I.4. Injured bats that are found shall be treated as fatalities for the purpose of analyses. Injured bats shall be handled according to state permit and state laws.
- I.5. Carcasses found outside of the search area or within the search area on a day when a scheduled search is not taking place, will be recorded following the protocol below (Condition K), and treated as incidental finds (collected according to Condition K and counted towards take limit but not included in GenEst and Evidence of Absence calculations).

J. Population monitoring at Stinson Cave- Permittee will work with qualified biologists permitted under other 10(a)(1)(A) permits to conduct annual population monitoring and counts at Stinson Cave. Population counts will occur within the same month (preferably the same week) each year.

- J.1. Two individuals should conduct the emergence count for one night. Weather conditions outlined in the 2019 Range-wide Indiana Bat Summer Survey Guidelines are acceptable for an emergence (USFWS 2019);
- J.2. The individuals will be equipped with thermal infra-red cameras and be stationed at different vantage points;
- J.3. The videos of the emergences will be analyzed to estimate the number of bats emerging.

K. Data collection and USFWS notification: Prior to collecting the specimen(s), Permittee (or designees as explained in Condition D.1. and D.3.) shall photograph the specimen(s) to document the conditions in which they were found. All carcasses shall be collected, regardless of species or listing status.

- K.1. All dead bats shall be collected and salvaged, regardless of listing status. Carcasses must be frozen as promptly as practical after collection. Species identification will be verified by bat biologists permitted by the USFWS to survey for gray bats. If identification cannot be verified visually, Permittees will provide tissue samples to a third party approved by the USFWS Missouri Ecological Services Field Office (Condition M.2) for genetic species identification and sex determination.
- K.2. All specimens and/or samples shall be prepared according to standard museum practices, properly identified, indexed, and packaged for transport. All specimens retained under this permit remain the property of the United States Government and must clearly be identified as such.
- K.3. Data shall be recorded for each individual salvaged, regardless of listing status. Associated data sheets must be provided, data may also be submitted in tabular format including:

- Sample identification code
- Date and time collected
- Initial species determination



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- Observer
- Sex, age, reproductive condition (when possible)
- Carcass condition (that is, intact, scavenged, dismembered, injured)
- Universal Transverse Mercator (UTM) location
- GPS location and distance from turbine
- Turbine at which specimen was discovered
- Habitat/substrate/ground cover conditions; relevant comments
- Estimated time of, or since death
- Wind speeds, direction, and general weather conditions for previous nights since the last survey
- Summary of turbine operations and/or treatment group

K.5. Hoary bat, eastern red bat, big brown bats, or silver-haired bat specimens may be retained for purposes of searcher efficiency and carcass removal trials. Three carcasses per week that are in good condition (least degraded) should be saved (frozen) to submit to the USFWS Missouri Ecological Service Field Office, unless otherwise directed in writing by that office (Condition M.2.). If fewer than 3 carcasses of a species are found in a week, save any that are found to submit to the Field Office. All other carcasses of these species can be retained by the facility if needed. Bats should be delivered at the end of the permit period, or sooner if requested by the Field Office.

L. Annual Reporting: An annual report of all activities conducted under the authority of this permit is due by **January 31 following each year this permit is in effect**. Reports shall be sent electronically, and your transmittal email must cite the Federal permit number, Permittee name, and the Annual Report year in the subject line (Note: thumb drives/flash drives and links to documents cannot be accepted). In addition, copies of all publications and reports resulting from work conducted under this permit must be submitted as they become available. Failure to furnish any reports required by this permit is cause for permit revocation and/or denial of future permit applications. At a minimum, your report shall include the information listed in Condition K.3 and:

- L.1. The date, time, geographic locations (including datum and projection information), distance and direction from the turbine, species, age, and sex of all bats encountered, regardless of listing status.
- L.2. A description of locations surveyed where no bats were encountered and a summary of turbine operations and/or curtailment operations, if applicable.
- L.3. Information on any injuries and/or mortalities and disposition of specimens, including the results of all carcass searches conducted throughout the study period.
- L.4. Copies of any separate reports and/or publications resulting from work conducted under the authority of this permit.
- L.5. A summary of your findings, including observed and adjusted fatality rates by species, where practical, expressed in terms of fatalities/turbine/season and fatalities/megawatt/season.
- L.6. Copies of all data analyses conducted by the Permittee, or contractor(s), including, but not limited to, statistical tests, correlation analyses, and fatality estimates.
- L.7. A discussion of the results and their implications for operations at Kings Point and North Fork wind facilities.
- L.8. All raw data, including acoustic data, bias trial data, and copies of data collection sheets, photographs, and field notes. Failure to provide data may result in your permit being revoked or may disqualify the Permittee from obtaining future permits under the Endangered Species Act.
- L.9. The results of annual population monitoring at Stinson cave.



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M. Copies of your reports shall be sent to **all applicable offices** indicated below. Your transmittal letter (or email) must cite your Federal permit number, Permittee name, and the Annual Report year in the subject line. Electronic copies shall be submitted in MS Word, Portable Document Format, Rich Text Format, or other file format that is compatible with the receiving office (**thumb drives/flash drives cannot be accepted**).

M.1. Regional Recovery Permits Coordinator

U.S. Fish and Wildlife Service – Midwest Region (Region 3)
Ecological Services – Endangered Species
5600 American Blvd. W., Suite 990
Bloomington, Minnesota 55437-1458
(612/713-5343; fax 612/713-5292)
permitsR3ES@fws.gov

M.2. Project Leader

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M.3. Julie Love

Scientific Collecting Permit Coordinator
Missouri Department of Conservation
Endangered Species and Natural History Division
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Jefferson City, Missouri 65102-0180
(573/522-0107 ext.4; fax 573/751-4864)
Collector.permit@mdc.mo.gov

cc: FWS, TE Coordinator: Missouri
DNR/DOC, TE Coordinator: Missouri