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U.S. Fish & Wildlife Service

Land-based Wind Energy Interim Voluntary Guidance for the Northern Long-eared Bat (*Myotis septentrionalis*)

BACKGROUND

On November 30, 2022, the U.S. Fish and Wildlife Service (Service) published a final rule to reclassify the northern long-eared bat (*Myotis septentrionalis*) as endangered under the Endangered Species Act of 1973, as amended (ESA). The species was previously listed as threatened with a 4(d) rule[1]. The 4(d) rule did not prohibit incidental take[2] (i.e., wound, kill) of northern long-eared bats caused by collision with operating wind turbines. Many wind energy facilities already exist within the range of northern long-eared bats and more are anticipated (USFWS 2022, Appendix 5). Northern long-eared bat fatalities have occurred at some of these facilities. Although the predominant threat to the northern long-eared bat is white-nose syndrome (WNS), the Species Status Assessment Report for the Northern Long-eared Bat indicates that wind energy is a threat to this species (USFWS 2022 p. 55, 61). However, changes in wind facility operations can avoid or minimize the threat. This document (guidance) articulates how (new or existing) land-based wind energy facilities can site and operate in a manner in which incidental take of northern long-eared bat is not "reasonably certain to occur" [3] and describes standard post-construction monitoring needed to validate the effectiveness of the operational requirements described below at individual wind facilities. Implementation of this guidance and the Service's conclusion on whether incidental take (in the form of wounding or killing) of northern long-eared bats is reasonably certain to occur is memorialized through the use of a technical assistance letter (TAL). Refer to the Northern Long-eared Bat Wind Guidance Frequently Asked Questions document for additional background information and how this guidance could be applicable to your project. This guidance is subject to change if new information becomes available.

DIRECTION AND ELIGIBILITY

1. As a general bat conservation measure, we recommend all turbines be sited away from suitable roosting habitat (USFWS 2022, pgs. 17-19). Specifically, projects should use at

[1] Section 4(d) of the ESA, directs the Service to issue regulations deemed "necessary and advisable to provide for the conservation of threatened species". It allows the service to promulgate special rules for species listed as threatened (not endangered) that provide flexibility in implementing the ESA.
[2] The ESA defines as: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct (16 U.S. C. 1542 (b)).
[3] The reasonable certainty standard is explained in 80 FR 26832 and Section 3.1 of the Service's Habitat Conservation Planning and Incidental Take Permit Processing Handbook.

least a 1,000-foot buffer in U.S. Fish and Wildlife Regions 2, 3, 4, and 5 or a 0.25-mi buffer in Region 6[4].

2. Coordinate with your local Ecological Services Field Office (Field Office) to determine if there are recent records[5] of northern long-eared bat summer occurrence (approximately May 15 – August 15), and/or known hibernacula[6] near your project or action area (50 CFR § 402.02). For a project to be in compliance with this guidance, it must be outside a 10.0-mile (mi) known northern long-eared bat hibernacula buffer[7] and outside the 3.0-mi recent summer occurrence[8] buffer. Smaller buffer sizes may be appropriate, especially in areas with low hibernacula counts. In such cases, coordinate with the Field Office to determine eligibility.
3. The purpose of pre-construction studies is to understand seasonal risk to bats, especially during the maternity season when impacts could be the most significant to the population. Wind facilities with summer risk are not eligible for this guidance. If no pre-construction surveys have been conducted, facilities (new and existing) must follow the most recent version of the Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines (https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines) and have survey plans approved by the local Field Office. If proposed project proponents have previously completed pre-construction bat surveys at the level of effort (LOE) required at the time of the surveys, results should be submitted to the Field Office along with the request for the TAL. If surveys demonstrate probable absence of northern long-eared bats, then continue to step 4. Note, we assume the presence of migrating northern long-eared bats throughout the range of the species because bats may use the airspace affected by wind turbines while migrating, even if the species is not detected on-sited during summer surveys.
4. Feather turbines below 5.0 m/s[9] (at a minimum) during the fall migration period, as determined by the local Field Office (specific timing of fall migration varies by location).

[4] Northern long-eared bat observations in the western periphery of the range demonstrate the species may travel farther distances between suitable roosting habitats.

[5] White-nose syndrome (WNS) is a threat to northern long-eared bats and the disease has not yet reached parts of the species range; although, it is expected to in the future. Therefore, the local Field Office will determine what "recent" records means for the species, which may change over time. For most of the northern long-eared bat range, recent records are those collected during the established (5-7 years post *Pd*) and endemic (7+ years post-*Pd*) phases of WNS as described in the SSA (USFWS 2022, pg. 34).

[6] Hibernacula is defined as a roost site, usually a cave or mine, where bats hibernate during the winter, including the surface entrance(s) and subterranean passages. In the western portion of its range, northern long-eared bat hibernacula may include topographic features such as talus slopes or limestone cliffs.

[7] Buffers are based around northern long-eared bat records in a 10-mile or 3-mile radius. We typically use a 5-mile buffer for swarming/staging for northern long-eared bats; however, the risk of operating wind facilities in areas where the species are concentrated (i.e., hibernacula) is higher. We used a 10-mile buffer which is consistent with the 10-mile buffer around P3-P4 hibernacula we recommend for Indiana bat (USFWS 2011)

[8] Summer occurrence is defined as either a capture or acoustic detection record.

[9] Turbine operation should be based on a 10-minute rolling average.

5. Outside of the fall migration period, but within the active bat season (approximately April 1-October 31, or as determined by the local Field Office), feather turbines below manufacturer's cut-in speed (at a minimum).
6. Conduct one year of post-construction mortality monitoring[10] during the entire active season as determined by the local Field Office (approximately April 1 – October 31). The USGS's Evidence of Absence software (EoA) (Dalthorp et al. 2017) will be used to design a post-construction mortality monitoring plan such that a detection probability (i.e., g-value) of 0.2 or an alternative sampling LOE can be expected. Alternative sampling designs can be developed at locations (e.g., ridgelines or mountains) where the landscape precludes the search effort needed to reach a g-value of 0.2 in coordination with the local Field Office. The post-construction mortality monitoring plan needs to be approved by the local Field Office prior to implementation of monitoring. Companies with existing post-construction fatality monitoring data can submit the data to the Field Office for determination of sufficiency. Field Offices that receive requests for different g-values or existing data will coordinate with Regional Offices for consistency.
7. Annual reports must be sent to the Field Office by December 15th. These reports must reaffirm that operational commitments were implemented (i.e., operating at cut-in wind speeds and confirming post-construction mortality monitoring was implemented as designed[11]). Annual reports with post-construction mortality monitoring will include photographs of bat species, and compiled bat fatality data for all bat species using this Reporting form (Region 3 Wind Post-Construction Monitoring Bat Reporting Form | FWS.gov) unless another format is requested by the local Field Office if the project is outside of Region 3. The Service will provide email confirmation on whether the TAL is still valid within 90 days after a report is received.
8. If new information becomes available that changes the Service's conclusion of 'take is not reasonably certain to occur' for a specific wind facility (e.g., fatality nearby, new occurrence records, etc.), the Field Office will coordinate with the Regional Office, inform the wind company, and make any changes to the TAL.
9. Bats found during mortality monitoring must be identified by a qualified biologist. In this context, a qualified biologist should have a 10(a)(1)(A) research permit. Although, monitors do not need a 10(a)(1)(A) permit to conduct post-construction monitoring, as long as, they have the skill to identify and distinguish bat species, any required state permit(s), and work under the supervision of a 10(a)(1)(A) permitted biologist. If potential *Myotis* remains cannot be visually identified to species, a tissue sample should

[10] The Service is currently developing a post construction monitoring framework for wind facilities with low risk of taking listed bat species. We intend to use the new framework in place of these monitoring requirements when completed.

[11] The Service will accept the monitoring results if the report demonstrates that post-construction mortality monitoring was implemented as designed (i.e., resulting g-value may fall short of 0.2 as long as monitoring was implemented as designed).

be taken and submitted to a qualified lab for genetic determination of northern long-eared bats from other similar species.

10. If no northern long-eared bats are found during the first year of post-construction mortality monitoring, and post-construction monitoring was implemented as designed, the post-construction mortality monitoring can be reduced to once every 7 years[12] during the entire active bat season, at a g value of 0.08 or otherwise agreed upon alternative sampling design with your local Field Office and Regional Office. This continued post-construction mortality monitoring is necessary because risk can change as environmental variables change over time. Coordinate with your local Field Office on the sampling design for these surveys using EoA or alternative tools.
11. If any northern long-eared bat or any other federally listed species carcasses are found during mortality monitoring or incidentally, the company must report the fatality within 24 hours of discovery to the local Field Office and the USFWS Office of Law Enforcement (OLE). It is not possible to absolve individuals or companies from liability for unpermitted take of listed species, even if such take occurs despite the implementation of appropriate minimization strategies to which take is not reasonably certain to occur, such as described in this guidance. However, the OLE focuses its enforcement resources on individuals and companies that take listed species without identifying and implementing all reasonable, prudent, and effective measures to minimize take to the level that take is not reasonably certain to occur. To be in compliance with the take prohibitions of the ESA, the facility must work with the Field Office to implement avoidance measures (e.g., not operating at night during the period of risk, etc.) and consider applying for an incidental take permit under 10(a)(1)(B) of the ESA.

SUPPORTING DOCUMENTS

Land-based Wind Energy Interim Voluntary Guidance for the Northern Long-eared Bat (*Myotis septentrionalis*): FAQ Supplement

Technical Assistance Letter Template for the Northern Long-eared Bat

LITERATURE CITED

Dalthorp, Daniel, Huso, Manuela, and Dail, David, 2017, Evidence of absence (v2.0) software user guide: U.S. Geological Survey Data Series 1055, 109 p., https://doi.org/10.3133/ds1055.

U.S. Fish and Wildlife Service. 2011. Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, revised October 26, 2011. Bloomington, MN.

U.S. Fish and Wildlife Service. 2022. Species Status Assessment Report for the Northern long-eared bat (*Myotis septentrionalis*), Version 1.1. March 22, 2022. Bloomington, MN.

[12] The Service is currently developing a post construction monitoring framework for wind facilities with low risk of taking listed bat species. We intend to use the new framework in place of these monitoring requirements when completed.