United States Department of the Interior

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Standing Analysis: Ohio Bat Determination Key

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Introduction

This standing analysis supports the "Ohio Bat Determination Key" delivered by the Service's Information for Planning and Consultation (IPaC) system. The U.S. Fish and Wildlife Service (Service) Ohio Ecological Services Field Office (OHFO) developed the Ohio Bat Determination Key to streamline the process of reviewing projects which result in none or minimal potential impacts to the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), or tricolored bat (*Perimyotis subflavus*).

The routine nature of the review of many similar projects provides an opportunity to programmatically evaluate their effects on these species. The streamlined process facilitated by the Ohio Bat DKey will reduce the amount of staff time necessary to review these projects and provide project proponents an immediate response after they complete the key for a qualified project. When this DKey is used to make a not likely to adversely affect determination, the Federal action agency adopts the information in this standing analysis to justify its effect determination.

Proposed Action

The proposed Action will include a variety of different projects; we expect the majority to be development projects or small-scale utility projects. Development projects may include residential, commercial, industrial, or municipal developments. Small-scale utility projects may include new electric distribution lines, electric substations, water treatment plants, natural gas distribution lines, and pump stations. Small repairs or modifications to existing oil or gas and electrical transmission lines and existing utility facilities may also qualify. Other types of projects; like marine events, cell towers, and recreational trails; may also qualify. This standing analysis will be reviewed annually to ensure that it is based on the best available scientific and commercial data. Additionally, a subset of individual projects will be reviewed by Service field office staff to ensure that the DKey is being used as intended.

General Exclusions:

To use this standing analysis and receive a conclusion from IPaC through the DKey, projects may NOT include the following:

1. Have any part of the proposed action outside the covered area
2. Purposeful take of a listed animal
3. Blasting
4. Construction or operation of wind turbines or solar panels
5. Aerial application of chemicals (including insecticide, herbicide, biopesticide, etc)
6. Activities for which caves/mines/rocky outcroppings/tunnels are present in the project area
7. Be part of a larger phased project
8. Removal, modification, or maintenance of a human-made building-like structure known or suspected to contain roosting bats
9. Be an ODOT project or federally funded transportation projects
10. Be in an area where the Field Office is concerned that there may be impacts to federally listed non-bat species

To ensure compliance with the ESA, project-specific consultation (or other programmatic consultation, if applicable) with the Service may be necessary for projects including the actions listed above. Those projects would not necessarily result in significant adverse effects to listed species or habitats.

Action Area
The Action Area is the entire State of Ohio. Because the DKey is intended for use by future site-specific projects, we cannot identify the action areas for these unknown future projects.

Covered Species
Species and habitats covered by the Ohio Bat DKey include:

- Indiana bat
- Northern long-eared bat, and
- Tricolored bat

Conservation Measures

Bats
To protect listed bat species, this standing analysis does not cover effects from projects that include:

- Activities within 0.5 miles of a known hibernaculum or fall swarming site
- Tree clearing within 1 mile of an Indiana bat capture or 1 mile of a known Indiana bat maternity roost tree

Additionally, the standing analysis does not cover effects from projects that include:

- Cutting or trimming any trees >5 inches dbh during the bat active season[1] for Projects that overlap only the Indiana bat Species List Area
- Cutting or trimming any trees >3 inches dbh during the bat active season for Projects that overlap either the Northern long-eared bat or Tricolored bat Species List Areas
- Clearing ≥5 acres of forest
- Fragmenting a connective forested between two or more forest patches of at least 5 acres

Bald eagle
Although no longer listed under the ESA, the bald eagle is protected under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d). The Dkey interface provides the user with information on the BGEPA if the project is within:

- ½ mile of a known bald eagle nest

Migratory Birds
If a project is compatible with use of the Dkey and involves building, maintaining or repairing a cell tower, the letter correspondence provides users with the Service's Interim Guidelines for Recommendations on Communications Tower Siting, Construction, Operation, and Decommissioning, pertaining to impacts to migratory bird species.

Species Description

Indiana Bat (*Myotis sodalis*)
Indiana bats range from New Hampshire south to northern Florida and west to Iowa, Missouri, and Oklahoma. They may summer in a wide range of habitats, from highly altered landscapes to intact forests. Roost trees vary considerably in size. Although trees used by Indiana bat maternity colonies are typically greater than 9 inches diameter at breast height (dbh), those used by males and non-reproductive females

1 1 The Bat Active Season is defined as April 1 – September 30 for all areas outside a Hibernaculum Buffer
The Bat Active Season is defined as March 16 – November 14 for areas within a Hibernaculum Buffer

or as alternate roosts for maternity colonies may be as small as 5 inches dbh. Indiana bats typically roost beneath peeling bark but may also use cracks or crevices. As such, roost trees tend to be dead or dying trees with some bark remaining, or live trees with naturally exfoliating bark, such as shagbark hickory (*Carya ovata*). Rarely do Indiana bats roost in structures, such as barns, sheds, or bridges. During winter, the species hibernates in caves, abandoned mine portals, or similar structures.

The Indiana bat was listed as endangered on March 11, 1967 (32 FR 4001) due to episodes of people disturbing hibernating bats in caves during winter, which resulted in the death of substantial numbers of bats. Indiana bats are vulnerable to disturbance because they hibernate in large numbers in only a few sites, with major hibernacula supporting 20,000 to 50,000 bats. Since its listing, the range-wide Indiana bat population has declined by nearly 60%. Several threats are believed to have contributed to the Indiana bat's decline, including the commercialization of caves, loss and degradation of forested habitat, pesticides and other contaminants, and most recently, the disease white-nose syndrome (*Pseudogymnoascus destructans*).

For additional information on the Indiana bat, including a recent five-year status review, please see the species profile.

Northern Long-eared Bat (*Myotis septentrionalis*)

Northern long-eared bats are found in 37 states in eastern and central United States and throughout much of southern Canada. They spend winter hibernating in caves, mines, or similar structures, preferring areas with constant temperatures, high humidity, and no air currents. During the summer, the species typically roosts underneath bark or in cavities, crevices, or hollows of both live and dead trees and/or snags (typically ≥3 inches dbh). On occasion, northern long-eared bats will roost in manmade structures, such as barns and sheds. These bats forage for insects in upland and lowland woodlots and tree-lined corridors.

The northern long-eared bat is one of the species most impacted by white-nose syndrome. While population numbers are unknown, the northern long-eared bat was listed as threatened under the ESA on April 2, 2015 due to observed declines caused by white-nose syndrome along with the continued spread of the disease. As declines increased, the species was subsequently reclassified to endangered on November 30, 2022, with an effective date of March 31, 2023 (87 FR 73488, November 30, 2022; 88 FR 4908, January 26, 2023).

For additional information on the northern long-eared bat, please see the species profile.

Tricolored Bat (*Perimyotis subflavus*)

Tricolored bats are found across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the spring, summer, and fall (i.e., non-hibernating seasons), tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees, especially in oaks. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and Usnea trichodea lichen, respectively. In addition, tricolored bats have been observed roosting during summer among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roosts (e.g., barns, beneath porch roofs, bridges, concrete bunkers), and rarely within caves.

During the winter, tricolored bats hibernate in caves and mines, although in the southern U.S., where caves are sparse, they often hibernate in road-associated culverts and sometimes tree cavities and abandoned water wells. They are one of the first cave hibernating species to enter hibernation in the fall and one of the last to leave in the spring in Missouri and Pennsylvania. In the southern U.S., hibernation length is shorter compared to northern portions of the range and some tricolored bats exhibit shorter

torpor bouts and remain active and feed during the winter. The number of hibernating tricolored bats does not peak at caves and mines until December or later, suggesting some bats stay on the landscape or in alternate hibernacula and only move in to caves and mines when it gets colder, although, in some cases, tricolored bats may remain on the landscape and hibernate in rock shelters (e.g., fissures in sandstone and sedimentary rock).

For additional information on the tricolored bat, please see the species profile.

Status of the Species in the Action Area

The endangered Indiana bat (*Myotis sodalis*) occurs throughout Ohio and may be found wherever suitable habitat occurs unless a presence/absence survey documents absence. Suitable summer habitat for Indiana bats consists of a wide variety of forested/wooded habitats where they roost, forage, breed and may include adjacent and interspersed non-forested habitats such as emergent wetlands and edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees include live and standing dead trees ≥5 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. In the winter, Indiana bats hibernate in caves, rock crevices and abandoned mines.

Northern long-eared bats (*Myotis septentrionalis*) occur in Ohio within a range defined using the North American Bat Monitoring Program's (NABat) Integrated Summer Species Distribution Model. Suitable summer habitat and roost trees for Northern long-eared bats are similar to the Indiana bat described above. However, they are more likely than Indiana bats to roost in smaller trees (≥3 inches dbh) and human-made structures, such as buildings, barns, bridges, culverts, and bat houses. In the winter, these bats hibernate in caves, rock crevices and abandoned mines. They have also been documented using talus, rock shelters, or rock crevices (within cliff or rock faces) as hibernacula.

Tricolored bats (*Perimyotis subflavus*) occur in Ohio within a range defined using the North American Bat Monitoring Program's (NABat) Integrated Summer Species Distribution Model. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. Bridges and culverts have also been used as roosts. During the winter, tricolored bats hibernate in caves and mines. Tricolored bats hibernate in more caves and mines than any other cave-hibernating bat species in eastern North America and may use small caves and mines that are unsuitable to other cave hibernating bat species.

Effects Analysis

Insignificant Habitat Loss/Degradation

Some projects that qualify for use of this DKey may result in minor loss/fragmentation or temporary degradation of available habitat for one or more federally listed bat species. However, we believe that adherence to specific conservation measures will ensure that any reduction or modification of available habitat will result in only insignificant effects to listed bat species.

Qualifying projects will:

- not occur within 0.5 miles of a known bat hibernacula, nor contain potential hibernacula within the Project Area. Because of this, it is unlikely for projects to directly impact hibernacula habitat.

- only clear a limited (<5 acre) amount of habitat. This reduces the potential roosting and foraging habitat that may be removed, making it unlikely that any project would impact a significant portion of habitat within a colony's home range. The OHFO will monitor the use of the Dkey to ensure the scope of this analysis is not exceeded (e.g., so many small projects occur that they result in a much larger impact when considered cumulatively).
- ensure that activities to reduce or modify habitat occur outside the bat active season (clearing permitted between Nov 15 – March 15 for projects within the buffer of a known hibernacula, or from October 1 – March 31 for all other projects). By restricting the timing of habitat clearing activities, projects avoid direct impacts to listed bats while they are on the summer landscape.

Based on the information available to us about the roosting behaviors of listed bats and the limited amount of roost trees that would be removed by qualifying projects, we believe that any effects on listed bats from the tree removal of qualifying projects would be discountable and/or insignificant.

Noise and Vibration

Minor noise and vibration produced by qualifying projects are typically produced temporarily during the construction phase (i.e., operation of construction equipment) and may be permanently produced during the operation phase (e.g., vehicular traffic). Listed bats roosting in trees may be exposed to noise and vibration and respond by flushing from their roost. Flushing requires extra energy expenditure and makes individuals more conspicuous to predators. An individual's response to this stressor is dependent on the magnitude of the noise and vibration, the proximity of the individual to the source, and an individual's level of habituation to the stressor. While listed bats have been observed to abandon a roost tree in response to a bulldozer operating in close proximity, there are several examples of bats continuing to roost in areas where they are habitually exposed to noise and vibration, including loud sources such as that from a military installation (U.S. Army Garrison Fort Drum 2011), an active timber harvest (Gardner et al. 1991), and an interstate highway and an airport (3D/International, Inc. 1996). Noise and vibration produced by construction equipment and vehicular traffic is localized. It is typically most severe in areas where the bats would be absent because there is no forested habitat available or where forested habitat has already been removed during site preparation. In other words, there is minimal tree-roosting or foraging opportunities. For these reasons, we expect listed bats to be minimally exposed to this stressor and do not expect them to respond by flushing from their roosts.

Night Lighting

Night lighting produced by qualifying projects is typically temporary during the construction phase and/or permanent during the operation phase (e.g., facility lighting). Bats could potentially be exposed to this stressor at night while foraging and commuting. Some research suggests that the Indiana bat avoids lit areas (Alsheimer 2011, Sparks et al. 2005). Night lighting produced during projects is localized. It is typically most severe in areas where listed bats would be absent because there is no forested habitat available or where forested habitat has already been removed during site preparation (i.e., limited tree-roosting or foraging opportunities). For these reasons, we expect listed bats to be minimally exposed to this stressor and to adjust their behavior to avoid these areas.

Prescribed Fire

Prescribed fire could impact habitat and directly harm individual bats. However, we believe that adherence to specific conservation measures will ensure that these impacts are insignificant or have potentially beneficial long-term effects in the case of habitat management (as suggested in Boyles & Aubrey 2006, Johnson et al. 2010, and Bergeson et al. 2018).

Qualifying projects will:

- occur outside of the non-volant pup season (May 15-July 31). This ensures prescribed fire only occurs when all bats on the landscape are able to fly and escape approaching flames.
- occur when the temperatures are above 40 degrees Fahrenheit, therefore minimizing the possibility of bats being in torpor and thus too sluggish to flee from the direct impacts of heat and smoke.
- include an average flame length of less than 8 feet, thus limiting qualifying projects to moderate to low-intensity fires, and
- occur at least 0.5 miles away from a known bat hibernaculum to minimize or avoid disturbance and habitat impacts to known hibernacula.

By implementing these conservation measures, both effects to habitat and disturbance to individual bats are avoided or minimized to be considered discountable and/or insignificant.

Culverts and Bridges

The Covered Species have been documented using culverts and/or bridges as roosts during both summer and winter depending on the geographic area. In northern portions of the range, such as Ohio, Covered Species are most likely to be found roosting in culverts or bridges during the summer season. Modifications, replacements or removals of existing culverts and bridges could disturb summer roosting bats, resulting in direct injury or mortality, as well as temporary or permanent loss of habitat. However, we believe adherence to specific conservation measures will ensure activities that impact existing culverts and bridges have insignificant adverse impacts to roosting bats.

Qualifying projects will:

- occur greater than 1,000 feet of suitable forested habitat (as defined in the Service's survey guidelines) to ensure Indiana bats and Northern long-eared bats are unlikely to use the bridge as a roost. This is only applicable to projects that occur outside of the Tricolored bat range (i.e. only within Indiana bat and/or NLEB range).
- have dimensions that are unsuitable for roosting by Covered Species (i.e. too small) to minimize the likelihood that bats are actually using the bridge/culvert as a roosting site.
- occur outside the bat-active season (April 1 – September 30), making it unlikely that bats are present while the culvert/bridge impacts occur.

We believe implementation of the above conservation measures would results in any effects on Covered Species from modification, replacement or removal of existing culverts and bridges would be discountable and/or insignificant.

Aggregate Effects

Although the consultation process will be applied on an individual project basis, we also considered the potential additive impacts of processing multiple projects under this SA to ensure the effects remain insignificant/discountable/wholly beneficial collectively.

We have reviewed the covered activities addressed by this SA and have determined that habitat effects are not expected to aggregate when combined with similar effects from other consultations covered by this SA in a manner that would result in adverse effects to the species (e.g., these effects would not be significant, measurable, or detectable either individually or collectively).

Conclusion

After considering the relevant information pertaining to the species, reviewing the covered activities and associated required conservation measures, and evaluating their anticipated effects (both individually and in the aggregate), we conclude that the actions subject to this SA, individually and collectively, will support a Federal action agency determination of "No Effect" or support a section 7(a)(2) determination pursuant to the Act of "may affect, not likely to adversely affect," as appropriate, for the subject species as described above. This SA is based on the consultation provisions of section 7(a)(2) of the Act and the information cited and will undergo review and revision, as needed, if any of the following conditions have been met: 1) If new information reveals the effects of the covered action(s) to the covered species or critical habitat are occurring in a manner or to an extent not considered in this SA based on applied use; or 2) If the species or critical habitat covered by the SA has a change in status.

Appendix

Letters

To generate NE (No Objection Letter):

- The Project does not involve tree cutting and/or trimming.
- Projects do not involve prescribed fire
- Project does not include any General Exclusions
- Projects involving bridge/culvert activities:
    - Ibat:
        - Bridge activities:
            - Bridge work is conducted >1000 feet from forested habitat, OR
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <4ft, OR
            - Culvert work is conducted >1000ft from forested habitat, OR
            - Project is conducted outside the bat active season
    - NLEB:
        - Bridge activities:
            - Bridge work is conducted >1000 feet from forested habitat, OR
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <4.5ft, OR
            - Culvert work is conducted >1000ft from forested habitat, OR
            - Project is conducted outside the bat active season
    - TCB:
        - Bridge activities:
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <3ft, OR

- Project is conducted outside the bat active season

To generate NLAA (No Objection SCP Letter):

- Projects involving tree cutting and/or trimming:
  - Clears <5 acres of contiguous forest (i.e., connected by 1,000 feet or less).
  - Does not fragment a riparian or other connective forested corridor (e.g., tree line) between two or more forest patches of at least 5 acres.
  - Clears all suitable summer habitat/roost trees during the bat inactive season
  - Does not clear suitable summer habitat within a 0.5-mile buffer of a known Indiana bat hibernaculum.
  - Does not clear suitable summer habitat within a 1-mile buffer of known Indiana bat summer records
- Projects involving prescribed fire:
  - Average flame length of <8 feet.
  - Will take place when temperatures are >40 degrees Fahrenheit.
  - Does not occur during the non-volant pup season
  - Does not occur within a 0.5-mile buffer of a known bat hibernaculum.
- Project does not include any General Exclusions
- Projects involving bridge/culvert activities:
  - Ibat:
    - Bridge activities:
      - Bridge work is conducted >1000 feet from forested habitat, OR
      - Project is conducted outside the bat active season
    - Culvert activities:
      - Culvert length is <23 feet, OR
      - Culvert height/diameter is <4ft, OR
      - Culvert work is conducted >1000ft from forested habitat, OR
      - Project is conducted outside the bat active season
  - NLEB:
    - Bridge activities:
      - Bridge work is conducted >1000 feet from forested habitat, OR
      - Project is conducted outside the bat active season
    - Culvert activities:
      - Culvert length is <23 feet, OR
      - Culvert height/diameter is <4.5ft, OR
      - Culvert work is conducted >1000ft from forested habitat, OR
      - Project is conducted outside the bat active season
  - TCB:
    - Bridge activities:
      - Project is conducted outside the bat active season
    - Culvert activities:
      - Culvert length is <23 feet, OR
      - Culvert height/diameter is <3ft, OR
      - Project is conducted outside the bat active season

To Generate MA (SCR NETO Letter):

- Projects involving tree cutting and/or trimming:
    - Clears <5 acres of contiguous forest (i.e., connected by 1,000 feet or less).
    - Does not fragment a riparian or other connective forested corridor (e.g., tree line) between two or more forest patches of at least 5 acres.
    - Does not clear suitable summer habitat within a 0.5-mile buffer of a known Indiana bat hibernaculum.
    - Does not clear suitable summer habitat within a 1-mile buffer of known Indiana bat summer records
- Projects involving prescribed fire:
    - Average flame length of <8 feet.
    - Will take place when temperatures are >40 degrees Fahrenheit.
    - Does not occur during the non-volant pup season
    - Does not occur within a 0.5-mile buffer of a known bat hibernaculum.
- Project does not include any General Exclusions
- Projects involving bridge/culvert activities:
    - Ibat:
        - Bridge activities:
            - Bridge work is conducted >1000 feet from forested habitat, OR
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <4ft, OR
            - Culvert work is conducted >1000ft from forested habitat, OR
            - Project is conducted outside the bat active season
    - NLEB:
        - Bridge activities:
            - Bridge work is conducted >1000 feet from forested habitat, OR
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <4.5ft, OR
            - Culvert work is conducted >1000ft from forested habitat, OR
            - Project is conducted outside the bat active season
    - TCB:
        - Bridge activities:
            - Project is conducted outside the bat active season
        - Culvert activities:
            - Culvert length is <23 feet, OR
            - Culvert height/diameter is <3ft, OR
            - Project is conducted outside the bat active season

Cell Tower Assumption:

We are assuming that if the project involved building/maintaining/repairing a cell tower, the project does NOT include:

- Being an ODOT project
- Being eligible for the Fed Highways Programmatic
- Work on bridges/culverts
- Purposeful take
- Blasting
- Wind turbines/solar panels
- Aerial spraying of chemicals
- A project area that potentially contains hibernacula (i.e. caves/mines/rocky outcroppings/tunnels are present)
- Being part of a larger phased project
- Prescribed fire