

## Indiana Bat Project Review Fact Sheet

### New York Field Office

The following fact sheet is intended to provide information to assist project sponsors, as well as any involved Federal and State agencies, with the review of activities that occur within the likely range of the Indiana bat (*Myotis sodalis*) within the State of New York. This fact sheet can be used to assist with compliance with the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). **PLEASE NOTE - this fact sheet does not apply to wind development projects as they involve many unique considerations.** Contact the U.S. Fish and Wildlife Service (Service) directly for technical assistance for wind projects. In addition, information on evaluating impacts from wind projects on Indiana bats can be found at <http://www.fws.gov/midwest/endangered/mammals/inba/WindEnergyGuidance.html>.

### *Background*

The Indiana bat is federally- and New York State-listed as an endangered species with a range that extends from the Midwest to northeastern and southeastern parts of the United States. Additional information on Indiana bat occurrences can be found at <http://ecos.fws.gov> and <https://www.fws.gov/northeast/nyfo/es/NYSpecies.htm>.

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum size roost tree observed to date is 2.5 inches diameter breast height (d.b.h.) for males and 4.3 inches d.b.h. for females. However, maternity colonies generally use trees greater than or equal to 9 inches d.b.h. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees. Additional information on potentially suitable summer habitat can be found in the Draft Indiana Bat Recovery Plan (Service 2007) at <http://www.fws.gov/northeast/nyfo/es/IndianaBatapr07.pdf> and at <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found, provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.*, old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures (Service 2007). While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Threats include disease (white-nose syndrome), habitat loss or degradation, human disturbance, contaminants, and collision with wind turbines.

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#### *Evaluation of Presence or Probable Absence*

To determine whether the proposed project site may be occupied by the Indiana bat, the Service recommends the following analytical approach<sup>1</sup>:

Step 1. Is the proposed project within an area<sup>2</sup> identified by the Service as known or likely to contain Indiana bats?

- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Proceed to Step 2.

Step 2. Is there existing information regarding probable presence/absence of Indiana bats (*e.g.*, proximity to hibernacula, prior summer netting/acoustics)<sup>3</sup>?

- No: Proceed to Step 3.
- Yes: Document existing information and coordinate with the Service.

Step 3. Is there any suitable Indiana bat habitat<sup>4</sup> present within the proposed action project area?

- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Determine whether the proposed project involves any effects to Indiana bats.

#### *Determination of Effects*

Determine for each project whether effects to Indiana bats or their habitat are expected. If there are impacts to habitat while bats are not present, assess the scale and scope of those impacts to determine whether bats returning in the spring may be affected.

For example, consider whether a project may result in temporary or permanent increases in noise, vibration, dust, chemical use, lighting, vehicle use, and general levels of human activity. Also, consider whether a project may result in temporary or permanent loss, degradation, and/or fragmentation of roosting, foraging, swarming, commuting, or wintering habitat.

Certain transportation projects have already been evaluated and processes developed in accordance with a Rangewide Consultation and Conservation Strategy:

<https://www.fws.gov/Midwest/endangered/section7/fhwa/>

#### *Surveys for Indiana Bats*

Should suitable Indiana bat habitat be present and should the proposed project have the potential for impacting Indiana bats, coordinate with the Service to determine whether 1) assuming presence or 2) conducting surveys<sup>5</sup> is the best approach. Due to the limited time frame when bat surveys can be completed and in order to avoid project delays, it is strongly recommended that the project sponsor (or involved Federal agency) contact the Service as early as possible during

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<sup>1</sup> This reflects our current understanding but future studies may require a revision to this guidance.

<sup>2</sup> <https://ecos.fws.gov/ipac/>

<sup>3</sup> <http://www.fws.gov/northeast/nyfo/es/NYSpecies.htm> and <http://www.dec.ny.gov/animals/38801.html>

<sup>4</sup> <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

<sup>5</sup> <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

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project planning to determine if surveys or additional avoidance and/or minimization measures are appropriate. Should Indiana bat presence be detected, the Service should be contacted immediately for further assistance in determining whether your action may impact Indiana bats. If no bats are detected after protocol surveys, submit the results as soon as possible for our review in accordance with the timeframes agreed upon during the review of the survey scope of work.

### *Conservation Measures*

Conservation measures are designed to minimize the likelihood of adverse impacts or result in beneficial effects to Indiana bats from projects. The following guidance represents general recommendations that may be incorporated into the proposed project design as appropriate.

### Project Siting

- Avoid removing or damaging documented roosts or trees surrounding roosts.
- Avoid impacts to forest patches with documented roosts/foraging use (*e.g.*, forest within 0.25 mile of known roosts).
- Minimize impacts to all forest patches.
- Maintain forest patches and forested connections (*e.g.*, hedgerows, riparian corridors) between patches.
- Maintain natural vegetation between forest patches/connections and developed areas.
- Maintain at least 35%<sup>6</sup> of forest habitat within maternity colony home range<sup>7</sup>.
- Restore and/or protect on- and off-site habitat.
- Avoid impacting potential roost trees to the greatest extent practicable
  - Retain standing live trees that have exfoliating (separated from cambium) bark.
  - Retain black locust, shellbark, shagbark, and bitternut hickories as possible, regardless of size or condition (live, dead, or dying).
  - Retain standing snags as much as possible regardless of species.

### Project Construction

- When >10 miles from a P3 or P4 hibernaculum or >20 miles from a P1 or P2 hibernaculum<sup>8</sup>, but within the summer range of the Indiana bat, the clearing of potential roost trees, generally  $\geq 4$  inches should occur from October 1 through March 31<sup>9</sup>.
- When <10 miles from a P3 or P4 hibernaculum or <20 miles from a P1 or P2 hibernaculum, clearing should be conducted from October 31 to March 31.
- Use bright flagging/fencing to demarcate trees to be cleared.

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<sup>6</sup> Minimum % forest cover within Indiana bat maternity colony home range (NYSDEC unpublished data)

<sup>7</sup> For explanation of how to delineate Indiana bat maternity colony home range, please see the Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects document located at <http://www.fws.gov/midwest/Endangered/mammals/inba/index.html>

<sup>8</sup> See Service 2007 for definitions of Priority 1-4 hibernacula. Contact the NYFO for information regarding the closest hibernaculum to your project

<sup>9</sup> Site specific information may allow for deviations from the listed dates. Also, there may be cases (*e.g.*, very small number of trees) when we believe the likelihood of impacts is low regardless of when tree removal occurs.

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**Project Operations/Maintenance**

- Minimize lighting impacts (*e.g.*, limit number of lights, direct lights downward, fully shield lights, use motion sensors or timers).
- Conduct activities in a manner that will minimize impacts to potential drinking water sources for bats.

As we better understand a given proposed project, including any proposed conservation measures for Indiana bats, we may have additional recommendations. Project sponsors should seek assistance from the Service to develop these measures.

*Information to Provide to the Service*

The project's environmental documents should identify project activities that might result in impacts to the Indiana bat or their habitat. Information on any potential impacts and the results of any recommended habitat analyses or surveys for the Indiana bat should be provided to the New York Field Office and will be used to evaluate potential impacts to the Indiana bat and/or their habitat, and to determine the need for further coordination or consultation pursuant to the ESA. We encourage the project sponsor to submit these materials as early in the planning process as possible to all appropriate parties (*e.g.*, involved Federal/State agencies, the New York State Department of Environmental Conservation, Service).

Specifically, the following information should be provided:

- whether a Federal agency is involved or not;
- a detailed project description;
- a map of the proposed project area with coarse vegetation cover types (*e.g.*, emergent wetland, open field) in acres;
- a summary table of current vs. proposed future acreage of each cover type;
- provide number or acreage of trees proposed for removal and timing of removal;
- an overlay of the project on the vegetation map;
- a description of the forested area onsite, including the type of forest (*e.g.*, oak-hickory), approximate stand age, and presence of dead or live trees with split branches or trunks or exfoliating bark;
- photographs representative of all cover types on the site and encompassing views of the entire site;
- a topographic map with the project area identified; and
- a summary of proposed conservation measures.

**References:**

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.