Potential Roost Tree Survey Methods for Endangered Bats

Vermont Fish and Wildlife Department
August 2021

Surveys for potential roost trees of Vermont state endangered bats should be conducted by personnel **trained by the Vermont Fish and Wildlife Department** (VFWD) and experienced in the identification of potential roost trees used by Indiana bats (*Myotis sodalis*) and northern long-eared bats (*Myotis septentrionalis*).

Roost Tree Identification Survey Methods

1. Determine if the project area is within the range of the Indiana bat and/or northern long-eared bat. ***Please note that based on historic and current data, northern long-eared bat range in Vermont is state-wide, but this distribution information may change in the future with continued data collection.***

2. Determine if the project contains suitable roosting habitat for Indiana and/or northern long-eared bats.[1]

3. Complete (100%) survey of the forested portion of the project area to be significantly altered or converted to non-forested habitat.
    - Each tree ≥ 4 inches in diameter at breast height (DBH) shall be individually assessed using potential roost tree criteria. If the project does not pose a concern for impacts to northern long-eared bats based on distance from known summer or winter colonies and/or amount of tree clearing[1] but is within Indiana bat range, only trees 5 inches DBH or greater must be assessed.

4. Potential roost tree criteria:
    - Cavity tree exhibiting any form of decay or excavation by primary cavity producers (e.g., woodpeckers) that provides access to the interior of the trunk
    - Cracks or crevices into which bats may roost, including bark furrows
    - Peeling or exfoliating bark on the trunk or branches
    - Live shagbark hickory or black locust
    - Total tree height exceeds 10 feet

5. Record data on all potential roost trees:
    - Tree species
    - DBH
    - Roost features: cavity, crack, crevice, or exfoliating bark
    - Percentage of bark remaining on tree
    - GPS Location (latitude and longitude in decimal degrees, NAD83)
    - Include photographs of roost features

[1] *Refer to U.S. Fish and Wildlife Service Range-Wide Indiana Bat Summer Survey Guidelines* and *VFWD Regulatory Review Guidance for Protecting Northern Long-Eared Bats and Their Habitats*

Reporting on the Identification of Potential Roost Trees

Submit a written report which confirms the surveyor's name and training/experience conducting such surveys, date survey completed, methods used, results, and a map of the location of each potential roost tree to Alyssa.bennett@vermont.gov for review and approval.

Time of Year Restrictions on Cutting Potential Roost Trees

Trees identified as potential roosts should not be cut when bats are active and concentrated on the forested landscape. For Indiana bats, the active period is April 1-October 31. For northern long-eared bats the restricted range is dependent on the location of tree cutting.[1] Furthermore, a 100-foot buffer shall be retained around potential roost trees during the active period.

If time of year restrictions on cutting potential roost trees cannot be adhered to, the trees in question shall be surveyed prior to cutting and in accordance with the following methodology:

1. Emergence surveys shall follow the methods described in the *U.S. Fish and Wildlife Service Guidelines[1], Appendix E,* but with the following Vermont-specific criteria:

    - Emergence surveys shall be conducted between April 1 and October 31 with one exception: Trees over 18 inches DBH with potential roost features within Indiana bat summer range are limited on the landscape and highly correlated with larger colony sizes when used by Indiana bats. Potential removal of these trees shall be brought to the attention of the VFWD during the project planning process and may require additional mitigation or a more limited survey window to evaluate maternity colony use.

    - Emergence surveys shall be conducted on **three** consecutive nights of suitable weather and temperature conditions as described in the *USFWS Guidelines*. (i.e., if a night with unsuitable weather conditions occurs in-between nights with suitable weather, then the survey from suitable nights are still considered consecutive).

2. All survey work shall be conducted by individuals trained in bat monitoring, who shall be pre-approved by the VFWD. A list of individuals who have attended a training is available on request from the VFWD. Training is valid for five years.

3. Survey methods will be confirmed with the VFWD at least two-weeks prior to the planned survey dates.

4. Completed USFWS Bat Emergence Survey Datasheets shall be provided to the VFWD within 10 days of the completion of the surveys.

5. Any potential roost tree for which the emergence surveys indicate no bat use may be cut or trimmed within the 10-day period after completion of the surveys or outside the time of year restrictions.

6. The VFWD shall be notified within 48-hours if any bats are observed during the emergence surveys.