

## Silver-haired Bat

*Lasionycteris noctivagans*

Federal Listing	N/A
State Listing	SC
Global Rank	G4
State Rank	S3
Regional Status	Very High

### Justification (Reason for Concern in NH)

Silver-haired bats have a life history different from the life history of other small mammals. Individuals are relatively long-lived and have a low reproductive rate, typically giving birth to two young per year (Kunz 1982). Only 8 individuals have been captured in New Hampshire from 3 counties (Sasse 1995, NHFG unpublished data). Acoustic data has been recorded from 3 additional counties (Reynolds 1999, Krusic 1996). Existing data indicate that silver-haired bats may have a wide summer distribution in New Hampshire. Habitat loss and degradation may lead to population decline, which would be aggravated by slow reproductive rates. Silver-haired bats are also of conservation concern in New Hampshire because little is known about their population status. The lack of detailed data on the distribution, habitat use, and life history of silver-haired bats in New Hampshire may be largely due to a lack of research. The biggest threats to silver-haired bats are wind turbines and habitat loss.

### Distribution

Data on the current and historic range of silver-haired bats in New Hampshire are too few to allow a regional comparison.

### Habitat

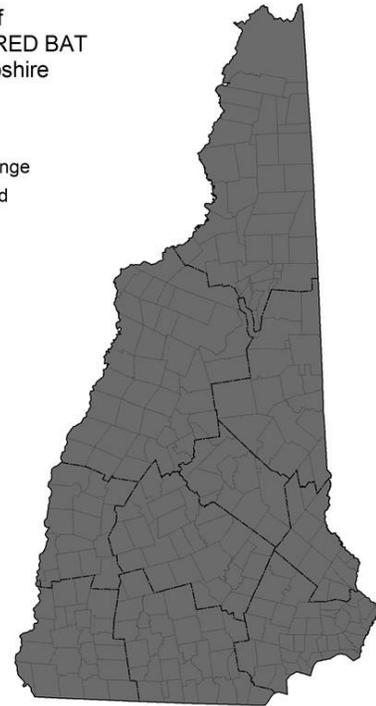
Silver-haired bats do not remain in New Hampshire during the winter. Individuals that inhabit New Hampshire during the summer migrate to southern states in autumn. During spring, individuals return to their summer habitat in New Hampshire (or, more generally, to northern states; Cryan and Veilleux 2007). The silver-haired bat is a tree-roosting species that roosts in tree hollows (e.g. Vonhof 1996, Betts 1998, Crampton and Barclay 1998). No data describe the summer roosting ecology of silver-haired bats in New Hampshire, but several studies have examined summer roosting in the northwestern United States and southwestern Canada (Campbell et al. 1996, Vonhof and Barclay 1996, Betts 1998, Crampton and Barclay 1998). Though results of habitat studies varied, in general, silver-haired bats preferred to roost in large tall trees, often in early to moderate stages of decay, in deep cavities relatively high off the ground. Betts (1998) found most roosts used by silver-haired bats were in mature rather than young stands. Campbell et al. (1996) found roost sites located > 100 m from riparian areas, on slopes averaging 38%, and the slope aspect for 11 of 15 roosts within 70° of north. The maternity roost described by Parsons et al. (1986) was located within a mixed-wood stand dominated by sugar maple (*Acer saccharum*), eastern white cedar (*Thuja occidentalis*), and white birch (*Betula papyrifera*).

## Appendix A: Mammals

### NH Wildlife Action Plan Habitats

- Hemlock Hardwood Pine Forest
- Northern Hardwood-Conifer Forest
- Appalachian Oak Pine Forest
- Floodplain Habitats
- Lowland Spruce-Fir Forest
- Northern Swamps
- Temperate Swamps

Distribution of  
SILVER-HAIRED BAT  
in New Hampshire



Distribution Map

### Current Species and Habitat Condition in New Hampshire

Population trends and viability cannot be inferred from the limited data on summer occurrences in New Hampshire.

### Population Management Status

Silver-haired bats are not currently managed in New Hampshire. The risk to bats from mortality due to wind turbines is considered during the environmental review process for wind power facilities.

### Regulatory Protection (for explanations, see Appendix I)

- NHFG Permit for collection or possession

### Quality of Habitat

Unknown.

### Habitat Protection Status

Unknown

### Habitat Management Status

## Appendix A: Mammals

None.

### Threats to this Species or Habitat in NH

*Threat rankings were calculated by groups of taxonomic or habitat experts using a multistep process (details in Chapter 4). Each threat was ranked for these factors: Spatial Extent, Severity, Immediacy, Certainty, and Reversibility (ability to address the threat). These combined scores produced one overall threat score. Only threats that received a “medium” or “high” score have accompanying text in this profile. Threats that have a low spatial extent, are unlikely to occur in the next ten years, or there is uncertainty in the data will be ranked lower due to these factors.*

There are no threats ranked high or medium for this species.

#### List of Lower Ranking Threats:

Mortality and species impacts from agricultural pesticide use causing prey declines

Mortality due to prescribed fire during winter

Habitat degradation from timber harvest that removes summer roosting and foraging areas

Habitat degradation from roads and powerline development

Mortality and conversion of migratory habitat due to wind turbine development

Habitat conversion and degradation due to removal of summer roosting and foraging areas

### Actions to benefit this Species or Habitat in NH

#### Promote organic practices and integrated pest management (IPM)

**Primary Threat Addressed:** Mortality and species impacts from agricultural pesticide use causing prey declines

**Specific Threat (IUCN Threat Levels):** Pollution / Agricultural & forestry effluents / Herbicides & pesticides

**Objective:**

Provide technical assistance to organizations that provide education, technical assistance and funding to farmers and homeowners on organic growing practices and IPM.

**General Strategy:**

Work with the Northeast Organic Farmers Association, UNH Cooperative Extension, NRCS, nursery stock growers, garden centers, garden clubs, landscapers and others to educate farmers, homeowners and commercial landscapers on using IPM and organic practices

**Political Location:**

Statewide

**Watershed Location:**

Statewide

#### Develop standard processes to reduce the effect of wind energy production on bats

## *Appendix A: Mammals*

**Primary Threat Addressed:** Mortality and conversion of migratory habitat due to wind turbine development

**Specific Threat (IUCN Threat Levels):** Energy production & mining

**Objective:**

Develop and implement rules on siting and operation of wind turbines to reduce mortality of bats during construction and operation

**General Strategy:**

Develop and implement siting rules that protect migration routes and occupied habitat from wind turbine development. Develop required operational mitigation measures such as curtailment to reduce bat mortality post-construction. Develop these in conjunction with nearby states to provide consistency to energy developers across the northeast.

**Political Location:**

Northeast, Statewide

**Watershed Location:**

Statewide

### **Monitor bat populations**

**Objective:**

Continue to monitor summer bat populations.

**General Strategy:**

Resurvey summer mist netting sites that have been historically monitored such as Surry Mountain Dam and New Boston Air Force Station.

**Political Location:**

Statewide

**Watershed Location:**

Statewide

### **Protect occupied roosting trees**

**Primary Threat Addressed:** Habitat degradation from timber harvest that removes summer roosting and foraging areas

**Specific Threat (IUCN Threat Levels):** Biological resource use

**Objective:**

Prevent occupied roosting trees from being cut down.

**General Strategy:**

Develop voluntary BMPs for forestry that help landowners and foresters identify and protect known and potential roosting trees during harvesting operations. Provide these guidelines to organization building trails or otherwise potentially cutting trees. BMPs could include time of year restrictions for cutting, tree size limitation and other techniques. Coordinate with other states for consistency.

## *Appendix A: Mammals*

### **Political Location:**

Statewide

### **Watershed Location:**

Statewide

## **References, Data Sources and Authors**

### **Data Sources**

Data on species distribution were compiled by searching for specimens deposited in museums and college/university teaching collections and by examining published and gray literature of research on bat populations in New Hampshire. NHFG unpublished data includes capture records provided by researchers as part of their reporting requirements for obtaining scientific collecting permits in NH.

### **Data Quality**

Data on the distribution of silver-haired bats in New Hampshire are extremely limited, though existing data are believed to be good. Hoary bats are morphologically unique and identifications should be accurate. Echolocation sequences of silver-haired bats are difficult to distinguish from big brown bats and therefore such data should be treated with caution.

### **2015 Authors:**

Emily Preston, NHFG

### **2005 Authors:**

Jacques Veilleux, Franklin Pierce University; D. Scott Reynolds, St. Paul's School

## **Literature**

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## *Appendix A: Mammals*

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