



Mammals

Eastern Small-footed Myotis

Myotis leibii

Priority 1 Species of Greatest Conservation Need (SGCN)

Class: Mammals (*Mammalia*)

Order: Bats (*Chiroptera*)

Family: Common Bats (*Vespertilionidae*)



General comments:

The Eastern Small-footed Bat (ESFB) is one of the smallest bats in North America, with a total length of 2.8-3.7 inches and a wingspan of 8-9.8 inches. It has a distinctive black face mask and very small feet. It is one of five species of “cave” bats that use caves, mines, and talus slopes to hibernate in Maine. During the active period, it roosts in the rock crevices of cliffs, talus, and other rocky areas. It may be Maine’s rarest bat species and was seemingly uncommon even before the arrival of White Nose Syndrome. It is a state Threatened species that primarily occurs in the southern half of Maine.

Species Conservation Range Maps:

Town Map: [Myotis leibii_Towns.pdf](#)

Subwatershed Map: [Myotis leibii_HUC12.pdf](#)

SGCN Priority Ranking - Designation Criteria:

Risk of Extirpation:	Maine Status: Threatened	Federal Status: None	IUCN Red List Status: Endangered
High Regional Conservation Priority:	Northeast Regional Synthesis (RSGCN): Responsibility: High, Concern: High NatureServe: Global Rank: G4 State Rank: S1		

Habitat Associations:

Formation: Cliff & Rock

Macrogroup: Eastern North American Cliff & Rock Vegetation

★ Primary Habitat	Habitat System: Laurentian-Acadian Acidic Cliff and Talus
★ Primary Habitat	Habitat System: Laurentian-Acadian Calcareous Cliff and Talus

Formation: Developed

Macrogroup: Extractive

★ Primary Habitat	Habitat System: Subsurface Mines & Caves
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Formation: Grassland & Shrubland

Macrogroup: Laurentian-Acadian Acidic Rocky Scrub & Grassland

★ Primary Habitat	Habitat System: Northern Appalachian-Acadian Rocky Heath Outcrop
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Formation: Grassland & Shrubland

Macrogroup: Laurentian-Acadian Calcareous Scrub & Grassland

★ Primary Habitat

Habitat System: Laurentian-Acadian Calcareous Rocky Outcrop

Formation: Northeastern Upland Forest

Macrogroup: Acadian-Northern Appalachian Forest

Habitat System: Acadian-Northern Appalachian Forest Macrogroup- Unknown Habitat System

Macrogroup: Appalachian Oak - Pine Forest & Woodland

Habitat System: Central Appalachian Dry Oak-Pine Forest

Habitat System: Central Appalachian Pine-Oak Rocky Woodland

Threats

Threat Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

IUCN Level 1 Threat Human Intrusions and Disturbance

IUCN Level 2 Threat: Recreational Activities

Severity: Moderate Severity

Actionability: Highly Actionable

Notes: Caving can disturb bats and awaken them from hibernation, thus depleting fat reserves. Furthermore, not following disinfection procedures can spread the fungal pathogen that causes White Nose Syndrome, or introduce other variants that could negatively impact our cave bats.

IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Lack of knowledge

Severity: Moderate Severity

Actionability: Highly Actionable

Notes: Maine has few caves and former mines that serve as hibernacula for this and other cave hibernating species. Recently, eastern small-footed bats were documented hibernating on talus slopes in Maine (Heilakka 2023). But, previous work was limited in scope, so additional research is needed to identify and map likely hibernacula locations and understand the factors influencing winter occupancy of talus slopes.

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IUCN Level 1 Threat Energy Production and Mining

IUCN Level 2 Threat: Renewable Energy

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: The eastern small-footed bat is currently rare in Maine, and therefore any mortality could be detrimental to the states population.

IUCN Level 1 Threat Invasive and Other Problematic Species, Genes and Diseases

IUCN Level 2 Threat: Invasive Non-native-Alien Species-Diseases

Severity: High Severity

Actionability: Actionable with Difficulty

Notes: White Nose Syndrome (a fungal pathogen) caused a >90% population decline in some species of *Myotis* bats in Maine and elsewhere in their range. In other parts of the U.S. there is ongoing research into treatments (e.g., ultraviolet light), habitat management (e.g., manipulating temperatures in hibernacula), and a vaccine. However, at this time none are readily available.

Species Level Conservation Actions:

None. Only species specific conservation actions that address high (red) or medium-high (orange) priority threats are summarized here.

Conservation Actions Associated with the Cave Bats Guild:

Conservation Action	Category	Biological Priority	Type
Conduct a monitoring effort to address knowledge gaps pertaining to the distribution, relative abundance, habitat use, and population trends of our cave bats.	Survey and Monitoring	moderate	on-going

Threat(s) Addressed By This Conservation Action

- Lack of knowledge

Conservation Action	Category	Biological Priority	Type
Conduct research to evaluate the use of talus slopes and other rocky habitats by hibernating bats, including determining the distribution of potential hibernacula, and the habitat and environmental factors that influence winter occupancy.	Research	high	on-going

Threat(s) Addressed By This Conservation Action

- Lack of knowledge

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Conservation Action	Category	Biological Priority	Type
Implement curtailment procedures (and adjust as necessary) to reduce mortality associated with wind turbines. Evaluate the effectiveness of bat deterrents and implement if the science suggests that they can successfully reduce bat mortality.	Species Management	high	on-going

Threat(s) Addressed By This Conservation Action

- Renewable Energy

Conservation Action	Category	Biological Priority	Type
Minimize the impact of White Nose Syndrome by limiting access to hibernacula, following decontamination procedures, and evaluating the practicality and effectiveness of treatments.	Species Management	high	on-going

Threat(s) Addressed By This Conservation Action

- Invasive Non-native-Alien Species-Diseases

Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's Wildlife Action Plan: Element 4.

Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's Wildlife Action Plan: Element 4. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, threats, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work