Bats in Nova Scotia
Beneficial management practices

STATUS Endangered (Canada) Endangered (Nova Scotia)

GENERAL GUIDANCE

Background

There are six bat species found in Nova Scotia. Three species are resident hibernators that can be found in the province year-round and include the little brown bat (*Myotis lucifugus*), the northern long-eared bat (*Myotis septentrionalis*) and the tri-colored bat (*Perimyotis subflavus*). Three species are long-distance migrators that migrate southward for the winter period and include the hoary bat (*Lasiurus cinereus)*, the eastern red bat (*Lasiurus borealis*) and the silver-haired bat (*Lasionycteris noctivagans*). All six species are considered as provincially and federally endangered.

RESIDENT HIBERNATING BATS

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Body length: 6-10 cm
Wingspan: 21-27 cm
Weight: 7-14 g

Description: Difficult to differentiate from northern long-eared bats without handling.

Little brown bat
(Myotis lucifugus)

Body length: 6-9 cm
Wingspan: 23-26 cm
Weight: 6-9 g

Description: Relative to little brown bats, have longer ears with a pointier tragus.

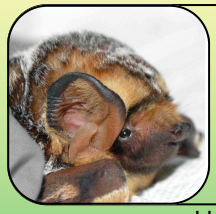
Northern long-eared bat
(*Myotis septentrionalis*)

Body length: 6-9 cm
Wingspan: 20-25 cm
Weight: 4-7 g

Description: Named for tri-colored fur (yellowish brown at base, light brown in the middle, dark brown tips).

Tri-colored bat
(*Perimyotis subflavus*)

LONG-DISTANCE MIGRATING BATS



Body length: 10-15 cm
Wingspan: 32-42 cm
Weight: 20-35 g

Description: Named for "hoary" fur that is dark with white tips. Also has a yellow fur throat patch.

Hoary bat
(*Lasiurus cinereus*)

Body length: 9-13 cm
Wingspan: 28-33 cm
Weight: 7-13 g

Description: Reddish brown fur with white shoulder patches.

Eastern red bat
(*Lasiurus borealis*)

Body length: 9-12 cm
Wingspan: 26-31 cm
Weight: 8-12 g

Description: Predominantly dark brown/black fur with white tips.

Silver-haired bat
(*Lasionycteris noctivagans*)

Key terms

Roost: *noun*, a place where bats will rest or sleep
Hibernaculum: a place in which bats seek refuge for the winter period to undergo a period of dormancy

Biology

In the summer (active) period, breeding females will congregate together in maternity roosts, where these bats will raise their pups together. Hoary bats and eastern red bats, and males of all species here, tend to roost solitarily. Roost switching occurs as often as every 1-3 days, with bats typically using a network of roosts during the summer period. In the fall period, bats begin larger movements across the landscape. Hibernating bats engage in autumn swarming, where they explore and congregate at potential winter hibernacula. Migratory bats begin their long-distance migration southward for the winter period. In the spring period, bats begin their return to their summer breeding grounds, with migrating bats returning to the province and hibernating bats re-emerging from hibernacula.

Natural habitat

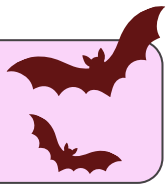
- All six species use trees (live and/or decaying/dead) as roosts
- Old-growth forests and mature forest stands offer greater diversity of suitable roosts
  - Northern long-eared bats especially rely on old-growth stands for optimal roost conditions
- The little brown bat, northern long-eared bat, and silver-haired bat typically roost in cavities and crevices in trees
  - E.g., under loose bark, in splits, in cavities formed by rotting or woodpeckers, between bark ridges
- The tri-colored bat, hoary bat, and eastern red typically use in tree foliage
  - Tri-colored bats in Nova Scotia preferentially roost in Old man's beard lichens (*Usnea* lichens)
- Bats tend to roost near water (<250-500m) features, such as ponds, rivers, and streams. Habitats with these water features provide water as a drinking source, but also support insects, the food source for all bats in Canada

What can I do? Well...

- One of the biggest barriers to bat conservation is getting people to learn and care about these animals. Bats have a lot of misinformation surrounding them, sometimes resulting in decision-making by people that harms bats. **Learning about bats and getting others enthusiastic about them wholly supports bat conservation.**
- **Protect and maintain mature forests**
  - Maintain a diversity of trees to allow for more roost options for bats during the active seasons
  - ***When safe to do so***, leave dead or decaying trees intact as these snags provide many suitable roost options
  - As older trees die, consider planting additional trees where space permits to offer continuity of forest growth
- **Protect and maintain mature and large-diameter trees**
- **Keep habitats connected**. While bats are very mobile, more forest-dependent species, like the northern long-eared bat, require safe flight corridors between habitat patches. Consider restoring hedgerows where possible and reduce habitat fragmentation
- **Buffer bat habitat.** Habitat buffers refer to the area surrounding habitat features, such as a hibernaculum or bat roost, within which habitat availability and quality impact bats.
  - For roosts used by breeding females (typically summer roosts), the surrounding 1000m of a roost site is critical habitat in which little to no activity should occur to protect bats and their roosts.
  - For swarming sites and hibernacula, the surrounding 50m is critical habitat in which little to no activity should occur. The surrounding 200m is special bat habitat that should be carefully managed.
- **Keep pet cats indoors.** Cats are a key predator threatening bat populations worldwide, with cats often catching bats from roosts. Consider keeping cats indoors especially during the vulnerable period between dusk and dawn, and using a leash outdoors to keep cats restricted.

Bat fun fact:

There are more than ***1500*** species of bats worldwide!



- **Use bat-friendly lighting.** Artificial light can disturb bats in various ways, including impacting their activity and feeding times, and making them more vulnerable to predators. To reduce light pollution:
  - Do not install lighting adjacent to bat roosts or foraging features (wetland corridors, forest edges)
  - Opt for motion-sensing lighting to reduce the time that lights are illuminated
  - Opt for warmer-toned lighting and lighting that does not emit UV radiation
  - Flat-covered or downshielding lights are preferred as they reduce the extent of light spread towards the sky
- **Reduce/eliminate pesticide use.** Consider planting native plants, which help attract wildlife like birds and bats that naturally control insects..

Report sightings

If you have seen a bat and have not yet reported your sightings, let us know! Reporting your bat observations helps with monitoring and conservation efforts. For sightings in Nova Scotia, report your sightings to **www.batconservation.ca**. For other areas in Atlantic Canada, call the Atlantic bat hotline at **1-833-434-2287 (BATS)**.

Additional resources

- **Bat Conservation International (BCI)**: https://www. batcon.org
- **Canadian Wildlife Health Cooperation (CWHC) bat resources:** https://www.cwhc-rcsf.ca/bat_health_resources.php
- **Canadian Wildlife Federation (CWF) bat resources:** https://cwf-fcf.org/en/explore/bats/
- Email **bats@merseytobeatic.ca** for more details and resources, including a longer guide on beneficial management practices

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