

# Here Are Six Ways You Can Help Save Bats!

Interview by **MARY WOODBURY** /// EAC Volunteer  
Interviewee **KAREN VANDERWOLF** /// Bat Specialist

I talked with bat specialist Karen Vanderwolf about why bats are healthy for ecosystems, what threats they're experiencing in Nova Scotia (NS), and what we can do to help.

*This interview has been lightly edited for clarity.*

**Mary:** What is your background, and how did you get involved with bats?

**Karen:** I started studying bats in 2006 for my honors undergraduate thesis at Western University. I continued my MSc at the University of New Brunswick and PhD at Trent University. I am currently doing a postdoctoral fellowship at the University of Waterloo, and I'm also affiliated with the New Brunswick Museum.

**Mary:** What type of bats are in NS?

**Karen:** Six bat species have been found in NS and are listed as endangered in Canada. Three species hibernate during the winter: little brown bat (*Myotis lucifugus*), northern long-eared bat (*Myotis septentrionalis*) and tricolored bat (*Perimyotis subflavus*). The three species migrate south for the winter: silver-haired bat (*Lasionycteris noctivagans*), red bat (*Lasiurus borealis*) and hoary bat (*Lasiurus cinereus*).

**Mary:** How do bats contribute to healthy ecosystems in NS?

**Karen:** Bats eat a variety of insects, including agricultural and forestry pests. This can reduce the need to use pesticides.

**Mary:** What are the major threats to our bat species?



Male red bat. PHOTO: Karen Vanderwolf

**Karen:** White-nose syndrome disease, which is caused by an invasive fungus, has devastated hibernating bat species in the province since its first detection in 2011. This population decline is noticeable because it includes the bat species people are most likely to see, the little brown bat. These bats readily roost in buildings and bat boxes. Migratory bat species are not affected by white-nose syndrome but are killed by wind turbines as they move across the landscape. All bat species in NS are affected by habitat loss. This includes spaces where bats forage for insects, raise their pups, roost and hibernate during winter. During summer, most bats in Nova Scotia live in forests and favor large, old trees with hollow spaces or loose bark.

**Mary:** What are bat boxes, and is the **Canadian Bat Box Project** still happening?

**Karen:** Bat boxes are man-made enclosures that encourage bats to roost. They provide alternate habitats for bats as forests are being lost. Only three out of the 19 bat species found in Canada have been documented using bat boxes. Little brown bats are known to use bat boxes throughout Canada, big brown bats use boxes in some parts of Canada, and Yuma bats use boxes in B.C. The number of bats using a bat box varies from one to hundreds, depending on the size and suitability. Bat colonies using bat boxes in Nova Scotia are currently small.

Our project's goal is to study bat box use to develop regional and species-specific recommendations for design and placement to increase success rates. A three-year project, the summer of 2021 was the first field season with over 1,400 participants signed up from across Canada. Summer 2023 is the final field season for the project, which is in partnership with the **Canadian Wildlife Federation** (CWF) and Wildlife Conservation Society Canada, with support from Environmental and Climate Change Canada. So there is still time to participate! Likely the little brown bat is only using bat boxes, but my project hopes to address this. In my current database, 47% of bat boxes in NS have been used.



**Mary:** How can people help bring bats back to the province?

**Karen:** Multiple ways:

- 1 Plant bat-friendly gardens.** Try to attract night-active insects that bats like to feed on such as beetles, flies, mayflies, caddisflies, lacewings and moths. Planting a variety of native plant species will provide food and shelter to native insect species. Specifically, night-blooming and night-scented plants with pale-coloured flowers that are easily seen in the dark attract moths that bats can feed on. A lot of native plants that we might consider weeds are fed on by moths or their caterpillars (such as goldenrod). These insects need fallen leaves and plant debris for protection from predators and shelter to overwinter. Clear out plant debris in the spring so insects can use the debris in winter to ensure a healthy population of insects in the spring. Add a pond with clean open water as a drinking source and reduce light in your yard.
- 2 Conserve forests and wetlands.** Support local organizations and NGOs (such as Nature Conservancy of Canada and **Ducks Unlimited Canada**) that conserve forests and wetlands. Support through money or time, such as volunteering to remove invasive species, planting trees or participating in garbage clean-ups. You can also oppose development in these habitats.



Little brown bat with white-nose syndrome.  
PHOTO: Karen Vanderwolf

- 3 Do not disturb bats in caves during winter hibernation.** Going into caves causes bats to wake up, costing precious energy, which burns their fat reserves too soon. Since insects usually aren't around in the winter, bats can't replace this fat and some die from starvation.
- 4 Install bat boxes on your property.** Bats roost in many different places and bat boxes represent one type of roost. If you decide to install bat boxes, bigger boxes (with three to four chambers or more) are generally more successful. Installing multiple boxes gives bats a choice, as different boxes will have different microclimates depending on size and sun exposure. Boxes on buildings are better than on trees. You should install your bat box 9-12 feet from the ground. It may take a couple of years for bats to find the box, but boxes can be moved after three to four years with no bats.
- 5 Keep your cats indoors.** Cats that roam outdoors kill a variety of small mammals and birds, including bats.
- 6 Leave bats in attics alone.** If bats live in your attic, either leave them alone or exclude them humanely. The Canadian Wildlife Health Cooperative has multiple online resources about bats in buildings.

**Mary:** What organizations would you recommend people get involved with?

**Karen:** The **CWF** has a national program to help bats that you can sign up to be a part of. The **Mersey Tobeatic Research Institute**, based in Nova Scotia, researches and monitors bats and includes a community science component.

**Mary** (she/her) is an eco-fiction author, tech writer and volunteer with the Ecology Action Centre. She loves gardening, hiking and rewilding her meadow, where she's also trying to attract bats.

**Karen** (she/her) has been studying bats for over 16 years and is working on her postdoctoral fellowship at the University of Waterloo. She has also been a bat conservation specialist at Canadian Wildlife Federation and has published several peer-reviewed articles.