



HABITAT ACQUISITION TRUST

BATS

protection

& stewardship

Photo Credit: Jared Kelly, Bats over the Domain, creative commons. Flickr: <https://flic.kr/p/7oQskK>

Bat Biology: What you need to know

Adapted from Naturescape BC article by Andrea Deering

1. Throughout history bats have been the subject of fear, superstition, and persecution. Fears that bats are diseased, suck blood, or become entangled in hair have led humankind to revile and destroy bats and bat habitat. In reality, bats are among the most unique and beneficial creatures in the world.

2. Bats are the only true flying mammals, a characteristic which has brought them great success in terms of species diversity, distribution, and effectiveness. Bats are members of the order Chiroptera, which literally means "hand-wing." There are over 1000 species worldwide. There are currently 17 species of bats documented in BC. Bats perform many valuable ecological roles including consuming massive amounts of agricultural pests, keeping insect populations in check.

Little Brown Myotis



3. Contrary to popular belief, bats are not blind. Eyesight and smell are well developed in bats. These senses are employed while hunting in conjunction with echolocation. Echolocation is also used to navigate in total darkness.

Bats have the ability to lower their body temperature and become torpid, or in other words hibernate in cold temperatures.

4. Bats residing in our region are insectivores, and most hunt while flying. Each night the average bat consumes about half its weight in insects. Bats, unlike other small mammals, are not prolific breeders. Most female bats in BC only have one pup a year. A nursing female may consume more than her entire body weight of insects in one night in order to sustain herself and her pup. Breeding females congregate in nursery or maternity colonies; often in warm crevices, attics, or wildlife trees to rear young.

Stewardship Series

Issue 1: Fall 2014

Our community supporting local bats

Bats have few natural enemies; however, human activities have had a detrimental impact on bat populations. Bats have been declining at an alarming rate worldwide. In North America, they have become one of the most endangered land mammals. Urban and agricultural development has caused wetlands to be filled. Large trees and wildlife trees, which are critical summer roost habitats, have been cut down. Nursery colonies and winter hibernation sites such as mines and caves are often disturbed. Globally, a number of mines have been dynamited shut for safety, trapping bats inside the mine or keeping them out permanently.

All 10 bat species found in our region face threats from habitat loss, predation by cats, and from the possible arrival of the quickly spreading fungus, White Nose Syndrome.

Unfortunately, we know little about the habits of bat populations in the CRD region. The HAT Community Bat Program is working with South Vancouver Island residents to better understand bats in the Capital region, and helping homeowners find ways to live with the bats or exclude them without harm.



This guide has been developed through a partnership between Habitat Acquisition Trust, BC Community Bat Program, and Naturescape BC.

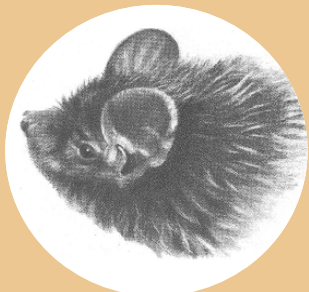
Our Local Bat Species



Big Brown Bat
Eptesicus fuscus



Yuma Myotis
Myotis yumanensis



Silver Haired Bat
Lasionycteris noctivagans



Townsend's Big-eared Bat*
Corynorhinus townsendii



California Myotis
Myotis californicus



Long-legged Myotis
Myotis volans



Keen's Myotis*
Myotis keenii



Hoary Bat
Lasiurus cinereus



Little Brown Myotis*
Myotis lucifugus



Long-Eared Myotis
Myotis evotis

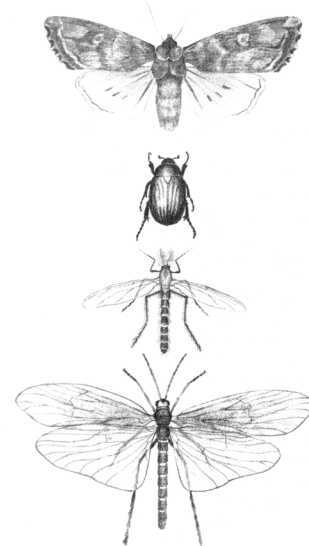
*Denotes a federal or provincial listed species at risk

{Food . Water . Shelter}

Providing Habitat for Bats

Food: Insects

Bats are huge consumers of many different types of insects including **moths**, **beetles**, **mosquitoes**, and others that can be pests for agriculture and forestry. Bats are the most important natural predator of night flying insects and important farming allies. A healthy bat population is part of a nature's mosquito control system that can greatly reduce our insecticide use.



Keen's Myotis
Blue-listed
Species in BC



Water: Wetlands

Generally, bats in BC live wherever they can find suitable roosting (sleeping) and foraging (eating) habitat relatively close together.

Bats often **rely on ponds and marshes** for foraging. By retaining or creating water features on your property, you are providing a much needed element of habitat for bats.

However steep banks can restrict access, so a log leaning into the water can act as a ramp for the bats.

Shelter: Roosts

Many species prefer to roost in hollow or older trees with grooved bark or crevices. Now, many species will roost in buildings or barns, especially under roofing or siding, in rafters or cracks of the chimney, behind shutters, or under a porch roof.

Bat houses (or boxes) are an excellent way to provide alternative summer habitat for bats. There are two types of biologist-approved bat boxes HAT recommends: the two chambered rocket box (a), or the four-chambered maternity box (b). Across BC, volunteers are working to build boxes for landowners living with resident bats. For box plans to build one yourself, visit www.bcbats.ca.

HAT needs people with time, wood, hardware, or funds to donate to the Habitat Stewardship Program. Contact HAT if you can contribute to this program.



Photo by Kootenay Bat Project.



"We've been very lucky to host a solitary male Big-eared bat in our carport for five years in a row.

We don't disturb him although we visit every day and marvel at the colorful variety of moth wings below his habitual roost."

*-Sylvia Pincott,
Pender Island*

Photo: Townsend's Big-eared bat by Juliet Craig

Living with Bats

There is no need to panic if you find bats in a building. Bats are simply small animals that are trying to find a suitable home. Some bat colonies can remain safely in buildings without creating a risk for humans.

Assess your situation. Are the bats causing a problem? If so, is it the bats themselves, or the side effects of the bats (such as noise, smell or guano) that is the issue? Leaving bats where they are is usually the best option for bat conservation but may not be an appropriate option for the homeowner.

Individuals can assist bats by: not disturbing roosting or hibernating bats, protecting important habitat, avoiding filling or draining wetlands, and not removing wildlife trees.

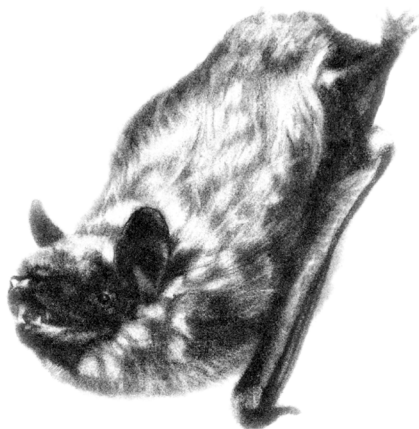
Bats and Human Health

Bats are not pests or rodents. All bats are protected under the BC Wildlife Act and cannot be intentionally exterminated. Human/bat interactions have been known to occur when bats enter houses, typically through open doors, windows or chimneys. The bat will usually leave if you open all the outside doors and windows and turn off the lights.

If you need to remove a bat that flew into your house, use gloves and a shoebox to gently capture and transport the bat outdoors, then hold it above your head, and open the top of the box slightly to release the bat so it can fly away.



Photo: Kerry O'Gorman



Long-legged Myotis

Bats are not aggressive and will only bite if directly threatened. Bats can carry rabies, but they rarely become aggressive when they do contract the disease. When bats do contract rabies they quickly succumb to the disease. In healthy bat populations, only 0.1% of bats carry rabies. The best precaution is to avoid handling any bats. If you find a live bat on the ground, it is probably sick or injured and is best left alone. If you have come into direct contact with a bat in any way, seek immediate medical attention as there is an excellent rabies vaccine, and you should call Island Health (VIHA) 1-866-665-6626. If you find a dead bat, call HAT and report it, as it may be used for research.

Excluding Bats

If wish to remove the bats from your building, we can help. Through the Community Bat Program, HAT can send a biologist to your home to assess the situation and help you develop a plan to exclude the bats without harming them.



HAT Biologist Christian Engelstoft installing box.

As a part of this, the biologist will work with you to identify an appropriate time of year to exclude and a good location nearby for a bat box. We will help with installation if needed.

Contact HAT at 250 995-2428 or email bats@hat.bc.ca for more information.

Did you know a bat's heart rate can reach up to 1000 beats per minute? Email bats@hat.bc.ca or call 250-995-2428 to report roosting bats.

BATS

BC Bat Count: Volunteer for bats

Little is known about bats in the Capital Region, including how many bats there are or where they are. We are concerned that bat populations are declining due to significant habitat loss in the region, so we need more information about bats to care for them.

You can help by volunteering in the Annual BC Bat Count. **"It's a wonderful opportunity for people who care about wildlife to be involved in collecting important scientific information"** says Jill Robinson, Executive Director of HAT. **"They don't need any special skills and it's a great way to get kids involved too."**

Volunteers wait outside a known roost site such as a bat-house, barn, bridge or attic, and count bats as they fly out at twilight. Ideally, volunteers commit to four nights: two counts between June 1 and 21 before pups fly, and two more between July 21 and August 15 when pups are flying. **"If we don't understand bats in the region, we can't do anything to protect them"** says Christian Engelstoft, a biologist with Habitat Acquisition Trust. We also have a recording device (above) called the Anabat.

If you would like to receive information about volunteering in the next Annual BC Bat Count, email bats@hat.bc.ca or call 250-995-2428. Training sessions and hand counters provided.



Volunteers performing a bat count

Stewardship Series 1



Yes! I want to be a Bat Buddy - to protect our local bats through research and habitat enhancement. Here is my donation

Name(s):

Address:

City:

Postal Code:

Phone:

Email:

Please find enclosed my donation in the amount of \$

PAY BY CREDIT CARD:

#

Exp Date: / VISA MC
(mm / yy)

Signature

Please direct my donation towards:

- ☐ Where Most Needed
- ☐ Wildlife Stewardship (bats)
- ☐ Youth Education
- ☐ Other:
- ☐ Yes! I would like to be added as a HAT member (free with donation of \$30 or more)
- ☐ Keep my donation anonymous

Charitable # 889626545RR0001. All donations over \$20 are tax-receiptable. Make cheques payable to Habitat Acquisition Trust or HAT.

About HAT

Habitat Acquisition Trust is Victoria's local land trust, helping people understand and care for nature in the Capital region of BC. HAT leads the Southern Vancouver Island Community Bat Program to learn more about local bat populations through scientific research, and help people care for bats and their habitat in the Capital region. Visit www.hat.bc.ca for more info and to **support bats in Victoria**.

About the BC Community Bat Program

This initiative is a network of community bat projects across BC, carried out in partnership with the Ministry of Environment. The goals of this network are to: Increase the number of known roost sites in human-made structures, encourage landowners to protect their bat roost sites or use bat-friendly exclusion methods, promote the Annual Bat Count to monitor bat populations, and enhance bat habitat by encouraging the installation and monitoring of bat-houses.

Acknowledgements: A special thanks to Dave Nagorsen, Juliet Craig, and Purnima Govindarajulu. Special thanks to our funders: Habitat Conservation Trust Foundation and the Federal Habitat Stewardship and Environment Canada's EcoAction Funding Programs.

Information & Photo Credits: Naturescape BC, bcbats.ca, and Craig, J., M. Sarell and S. Holroyd. 2014. Got Bats? BC Community Bat Project Frequently Asked Questions. Prepared for the BC Community Bat Project Initiative. Photos: TC by Todd Carnahan.

Illustration Credits: All illustrations in this guide are courtesy of the Royal BC Museum, BC Archives: Bats of British Columbia by David W. Nagorsen and R. Mark Brigham.

Hoary Bat

Habitat Acquisition Trust | PO Box 8552 | Victoria, BC | V8W 3S2 | office at 825 Broughton St

250 995-2428 | www.hat.bc.ca | email: hatmail@hat.bc.ca | [f](https://www.facebook.com/HabitatAcqTrust) HabitatAcqTrust | [t](https://twitter.com/HabitatAcqTrust) HabitatAcqTrust