

Act for Bats!

Help your community become
Bat-friendly!



Inside This Handbook:

- Bat Basics
- Bats and Humans
- Threats
- What you can do
- Alternative Habitat
- Bats in your Building
- Report a Sighting

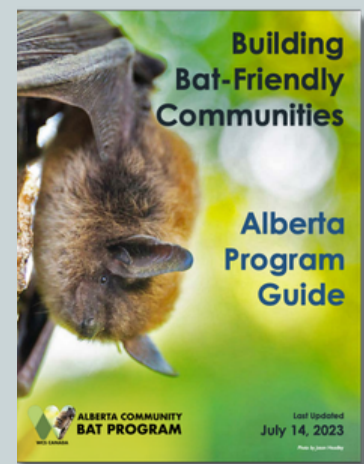
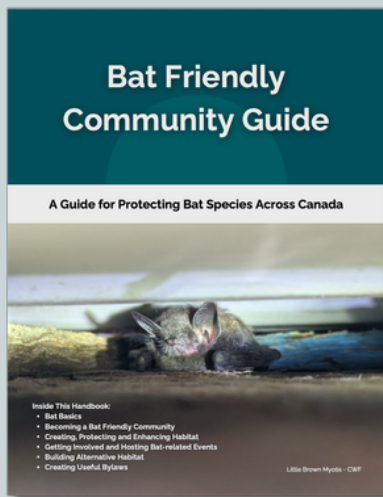
Little Brown Myotis - CWF



Acknowledgements

This document contains information from the [Bat-friendly Community Guide](#). If you are interested in more detailed information on the topics covered here, check out the longer guide.

It also contains information from the BC Bat Friendly Community and the Alberta Bat Friendly Community guideline documents.



- [Community Bat Programs of BC](#)
- [WCS Canada's Alberta Community Bat Program](#)

This version was last updated [07/07/2026]. Regular updates may be made as new material is developed or information becomes available. Please check HelptheBats.ca for the latest version.

Comments, corrections or suggestions for new material may be emailed to helpthebats@cwf-fcf.org.

Pledge for Bats!

Take the Canada-wide pledge to show your commitment to bats in your community!

Once you've gone through the guide, please take the time to complete the pledge for bats!

The goal of this pledge is to encourage residents to commit to actions that can help make their community Bat-friendly!

Head to:

www.HelptheBats.ca



to take the pledge today!

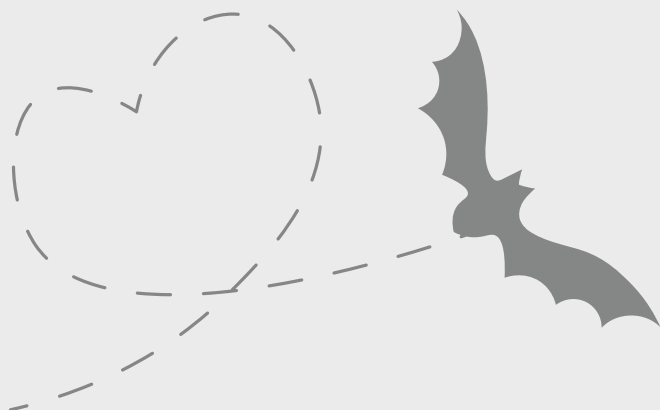


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Bat Basics!

Little Brown Myotis



Brock Fenton

Silver-haired Bat



Brock Fenton

Yuma Myotis



Cori Lausen

Long-legged Myotis



Cory Olsen

Big Brown Bat



Brock Fenton

Eastern Red Bat



Brock Fenton

Pallid Bat



Brock Fenton

Western Small-footed Bat



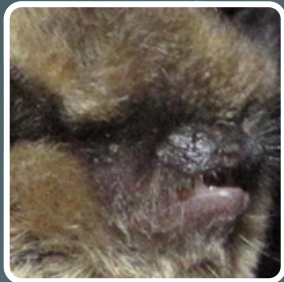
Cori Lausen

Tricoloured Bat



Brock Fenton

California Myotis



Cori Lausen

Spotted Bat



Brock Fenton

Townsend's Big-eared Bat



Brock Fenton

Hoary Bat



Jordi Segers

Eastern Small-footed Bat



Jordi Segers

Fringed Bat



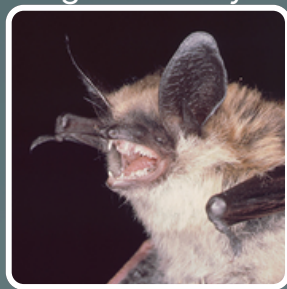
Jared Hobbs

Northern Long-eared Myotis



Brock Fenton

Western Long-eared Myotis



Brock Fenton

Brazilian or Mexican Free-tailed Bat



Brock Fenton

Status:



Threatened



Endangered



Little Brown Myotis; "Photo 11523075"
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BATS 101

All 18 Canadian bat species eat insects. In fact, most of the 1500 known bat species eat insects, but there are bats in other parts of the world that eat fruit, nectar, fish and other vertebrates.

Three species of bat drink blood, none of which are found in Canada.

As the primary predator of night flying insects such as moths, beetles and mosquitoes, Canadian bats can catch hundreds of insects in just one hour. Contrary to popular belief, bats are not blind. They actually have great vision and rely on it for many aspects of their lives. To find prey, however, most bats rely on echolocation.

Having a healthy colony of bats can protect gardens and crops from damage and control biting insects, some of which act as possible vectors of disease.

Canadian bats are active from spring to fall. They forage at night and roost in a variety of places during the day. Canadian bats mate in late summer and early fall, and some species then enter caves and mines to hibernate for the winter. Several species don't hibernate at all, instead they migrate south like many birds do and mate on route back in the spring. Pups are born between June and July and can fly within a few weeks after birth.

Note: The Brazilian, or Mexican, Free-tailed Bat is found in Canada and included in the 18 Canadian species, but it is uncertain if they have established populations here.

Bats need three basic things to survive:



Well-managed habitats can provide these key elements and the diversity of habitats is important for ensuring the success of our bats. Some bat species that live in close association with human communities, such as the Little Brown Myotis, rely extensively on human-made structures as sites for roosting and raising offspring.

While buildings and bat houses provide important shelter for some bat species, this is not sufficient to sustain our bats if they cannot access drinking water or food in the form of insects. Most bat species in Canada do not use buildings or bat houses, so maintaining and creating natural habitat is important for bat conservation.

Education and outreach are also key. Debunking myths and creating education programs can help to encourage communities to promote bat conservation.

Bats make up nearly one quarter of known mammal species and there may be even more out there! Bat species are still being discovered. For more general information on bats and their species diversity, visit CWF's [Bats 101 page](#).

Bats and Human Health

Big Brown Bat - CWF

**NO CONTACT =
NO RISK!**

**NEVER TOUCH BATS
With Bare Hands
(ALIVE OR DEAD)**



The risks of rabies and histoplasmosis are often misunderstood and can lead to unnecessary intervention that puts bat colonies at risk. There are many homeowners who safely coexist with bats in their buildings.

Rabies

All mammals can contract and transmit rabies, including bats. When wild populations of bats are sampled randomly less than 0.5 per cent tested positive for rabies. However, if left untreated, rabies is fatal to humans and by the time symptoms show up, it is almost always too late for intervention to be effective. **This is why it is critical to seek medical attention for any known or suspected wild animal bite or scratch (this includes a scratch from a tooth).**

In general, people should avoid coming in contact with any wildlife. Any contact with bats should be done with **thick gloves and long sleeves**. It is also important to protect your pets from interacting with wildlife and to ensure that their vaccinations are up to date.

Cases of rabies in humans are rare in Canada. This is largely due to excellent prevention and control programs. Since reporting began in 1924 up to 2024, there have been 28 cases of rabies in humans in six provinces. Data on how many of these were from bats versus other wildlife is not available. All cases were fatal.

Rabies from a sick bat is transmitted through a bite, scratch or contact with an open wound. **It is not transmitted through bat guano.**

Situations not likely to result in contact with a bat:

- Bats living in attics but not entering living spaces
- A bat found in your living space provided it wasn't in a bedroom while someone was sleeping and there were **no** young children or unvaccinated pets present
- Capturing a bat without touching it (i.e., using a net or container)
- Contact with a bat (alive or dead) using thick leather gloves
- Performing an emergence survey (bat count) or checking bat houses

For more information on what to do in the event of a known or suspected contact with a bat, please contact your [local health authority](#).

Bat Bugs

- Bat bugs are an ectoparasite associated with bats. They are related to bed bugs and can be found in homes that have bat colonies inside, however they are easier to get rid of, rarely feed on humans and only bite people if there are no bats present.
- This means that after an exclusion, bat bugs may be found in human spaces, but they cannot persist without bats and will die off within a few months. **They are not known to transmit diseases and are not considered to be dangerous to humans.**



Bat Bug by [Mohammed El Damir](#), [Bugwood.org](#)
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Histoplasmosis

- Histoplasmosis is a lung infection caused by spores of a histoplasma fungus entering the body, typically through inhalation.
- The fungus can grow in a buildup of bird or bat droppings in some parts of Canada (especially in nitrogen-rich, humid environments), but not necessarily all bird or bat droppings will contain the fungus.
 - It occurs [mainly](#) along the St. Lawrence River Valley in Southern Ontario and Quebec. There have been also a few local cases in Alberta, one local outbreak in Saskatchewan and a case involving a pet in New Brunswick.
- **For infection to occur, a person must be:**
 - in an area where histoplasmosis occurs
 - breathing in the spores (i.e., cleaning guano in an attic, cleaning a chicken coop)
- Anyone who may be in such a situation, should wear protective equipment to avoid the potential risk of infection. **Cleaning up guano from under a bat house outside does not pose the same risk. The risk is highest in enclosed spaces.**
- If infected, most people tend to recover on their own, otherwise medication can be prescribed; however, if left unresolved, it could lead to more complicated and longer-term effects.

If a bite, scratch, exposure of a young child or unvaccinated pet, or histoplasmosis exposure is suspected, consult a medical professional immediately for guidance. For more information on what to do if you encounter a bat, contact your [local health authority](#).

Threats to Bats

[Eight of the 18 species of bat in Canada](#) are species at risk of extinction. Canadian bats have only one to two pups per year, meaning population growth is slow. As a result, their populations are especially vulnerable to habitat loss and other sources of mortality.

The primary threats to bats are human related, which also means we can be part of the solution. Many of these threats can be addressed through local, community-driven action.

The largest threats to bats are:

White Nose Syndrome

This disease is caused by a fungus which grows on the exposed skin of bats as they hibernate during the winter in caves and mines. Little Brown Myotis, Northern Myotis and Tricoloured Bats often decline by **90 to 100** per cent in hibernacula with White-nose Syndrome, while Big Brown Bat declines are more often in the **35 to 41** per cent range. Other bat species in western Canada are also susceptible to WNS (Long-legged Myotis, Yuma Myotis, and possibly California Myotis) but declines have not yet been observed.

Habitat Loss

Deforestation affects many bat species that rely on forests for roosting and foraging. In particular, the loss of old growth forests threatens certain bats. Many of these species' roost in older trees or snags. Forestry practices that create even-aged stands, such as clear-cutting, result in the loss of these very important roost sites. The loss or disturbance of hibernation sites from mining activity, flooding, etc., also threatens survival as it decreases the availability of important habitat that bats rely on.

Wind Turbines

Wind turbines are estimated to kill 600,000 to 900,000 bats per year across North America. This has led to three of the migratory species of bat (**The Eastern Red, Hoary and Silver-haired Bat**) to now be considered Endangered in Canada.

Pesticides

Crops are often sprayed in early evening when bats are active. Direct spraying can quickly lead to the death of bats and pesticides also affect bats indirectly by killing off a wide assortment of insects, which limits their food sources.

Persecution of Bats in Buildings

Due to centuries of negative portrayal, bats face eviction from roosting sites at improper times of year (and often by improper/lethal methods), both intentionally and unintentionally, as they are incorrectly seen as pests.

Acts for Bats: What you can do!



Water

Create Artificial Water Features

Create a Water Feature that is:

1. **close to roosting habitat**

- Under two kilometres is a good rule of thumb but closer is better.

2. **a minimum of three metres long**

- Smaller is less accessible for bats to drink.

3. **calm and quiet**

- Turbulent or fast flowing water may not be accessible to bats.

4. **free of emergent vegetation, surface algae and debris**

- Bats need open pools of clean water without obstacles that could obstruct their flight path or prevent them from dropping their bottom jaw into the water.

5. **permanent**

- This ensures that bats have consistent access to water.



Little Brown Myotis
Brock Fenton

Add Small Water Features to Personal Gardens and Yards

- Add a small water feature (i.e. insect waterer, bird bath, small fountain, etc.) to gardens and yards
- Although bats cannot drink from these features, they do promote the presence of insects and provide important food sources.
- Check out the CWF's [Gardening for Wildlife](#) page for additional examples and installation advice



Small Water Feature; Photo: CWF

Add Escape Structures

- Add escape structures to ponds, pools, rain-barrels, troughs or other water containers that bats may use for drinking to prevent drowning
 - This requires a rough-textured surface leading from the edge of the water and extending at about a 45 degree angle into the air.
 - A simple solution is to place a rough log or post (non-pressure treated) into the water that bats (and other wildlife) can use to climb out.
- Keep water levels high to ensure that bats can escape if they fall in. It also makes it easier for them to drink



Remove Obstructions on the Surface of Water Features

- Adopt good angling practices such as ensuring that all fishing line and hooks are removed from water and nearby vegetation to avoid entanglements
- Clear invasive vegetation
 - Algae-covered ponds are not accessible for bats unless a section is regularly kept free of debris.
- Remove fencing (i.e., barbed wire) that bats can become entangled in over streams, ponds and channels

Maintain Native Vegetation Around Ponds and Reservoirs

- Manage vegetation around water sources to ensure that bats have security cover when moving between roosting and foraging sites
- Replant gaps in hedgerows with native tree or shrub species to provide a continuous cover for flying bats and link these lines of vegetation to water sources, where possible

Let Running Water Pool

- Maintain wetlands to ensure that natural standing water is available
 - In fast moving water, bats run the risk of being swept along with the current.
 - It is important to ensure that there are places where water is pooling to give bats access to standing water.
- Retain natural features of waterbodies, watercourses and wetlands (shallows, spits, and riffles, open ponds and pools, meandering areas of streams, etc.)
- Log jams and beaver dams create slow moving, open pools that bats can use for drinking. If possible, avoid removing these structures



Photo: Bill Maynard

Avoid Stocking Ponds with Non-native Fish

- The presence of non-native fish (i.e., goldfish) in certain bodies of water can reduce aquatic invertebrates, many of which grow to become insects that bats will feed on
- Fish can contribute to eutrophication that is caused when there is an influx of nutrients into a body of water that leads to excess plant growth and algae blooms
 - Algal blooms can deter bats from accessing water.
 - When the algae begin to die the breakdown process can deplete the oxygen in the water and further decrease the number of aquatic insects that would grow to be a food source for bats.
- Large ponds with lots of native vegetation and management are unlikely to be affected

1.2 Terrestrial Habitat

*Roosts used only in the Spring/Summer/Fall.

Day Roost*	Sites where bats roost during the day that are usually within enclosed spaces and well-protected. They can be used by lone bats (often males or non-reproductive females) or a colony of females and their pups (maternity roosts).
Night Roost*	Sites where bats roost during the night, or for an hour or two, to rest between feeding bouts. They are usually warm, open spaces and groups of both males and females are often present.
Hibernacula	Sites where bats hibernate during the winter, these could be caves, mines, etc. Bats need stable, cool (but not freezing) temperatures to conserve energy to survive the winter. Bats do not hibernate in bat houses, although Big Brown Bats will hibernate in buildings.
Maternity Roost	Sites where females gather to give birth and raise pups in the spring/summer in groups ranging from two to thousands of individuals. They are usually warm locations and bats may be present day and night.
Tree Roost*	- Trees are some of the most widespread and important natural roost structures. - Bats may roost among the foliage or in structural defects like knot holes, old woodpecker cavities, sloughing bark, etc.
Rock Roost	Rock roosts are well-protected locations from predators and inclement weather and can be used year round. Mines and caves are usually used for hibernation, but pregnant and lactating mothers, who need warmer roosts, might also use the cracks and crevices of cliffs, under slabs of rocks, etc., the rest of the year.
Building Roost*	- Buildings and other human structures may offer superior conditions than would have occurred naturally and may be better protected from predators. Not all bats will occupy buildings, but they have become especially important for the Little Brown Myotis, Yuma Myotis and Big Brown Bat. In some areas, the Big Brown Bat may at times hibernate in buildings.
Bridge Roost*	Bridges often have many crevices and can provide great roosting habitat. They can be used as a night roost and/or a day roost by reproductive and non-reproductive bats.
Bat Houses*	Bat houses are a form of alternative habitat. Although they can provide important habitat (especially if there is an exclusion), only three species are known to regularly use them in Canada: the Little Brown Myotis, Big Brown Bat and Yuma Myotis.
Patio Umbrellas*	Closed umbrellas are occasionally used by bats as day roosts. If you find a bat roosting in your umbrella during the day, it is best to leave it closed to minimize stress. If it happens regularly, you can leave the umbrella open at night to deter bats from roosting.

For more detailed information, refer to pages 18-24 in BC Bats' [Bat Friendly Community Guide](#)

Look for Signs of Bats, Identify and Report Roosts

- Look for signs of bats such as guano pellets, which can often be found on the ground or stuck to the sides of buildings
- If it is suspected that bats may be roosting in a structure, watch buildings for at least an hour starting at sunset (in June or July when they are more likely to be present) to see if bats are flying out
 - Check out the CWF's [monitoring guidelines](#) for more information on how to perform an emergence count and [report](#) the results.
 - Contact local bat organizations ([Alberta Bats](#), [BC Bats](#), [Bat Watch](#) (QC), etc.), or the CWF, for advice if you suspect bats are present.

Townsend's Big-eared Bat

Brock Fenton



Enhance Buildings That House Bat Colonies (Barns and Sheds)

- Install bat houses to provide alternative and additional habitat at these sites
- Consider planting wildlife-friendly gardens around the buildings to attract more insects and make more food available for the bats
- Enhance existing crevices
- Enhance grip by roughening surfaces to make it easier for bats to land and hang on
- Increase darkness at the site by screening or blocking windows, or create smaller rooms within the space to minimize light
- Remove plants like burdock to prevent entrapment
- Inspect the roof and ensure it is not leaking where the bat colony is located
 - Consider replacing the roof at the right time of year, instead of tearing down the building.
- If bats must be excluded, follow proper exclusion protocols and timelines. Check out the CWF's [website](#), for more information on when it is safest to perform an exclusion

For more information on how to enhance buildings for bats, check out the [BC](#) and [Alberta Bats GOT Bats](#) guides.

Maintain Conditions of Already Occupied Roosts

- Avoid any structural changes that may trap bats inside the roost. If modifications, maintenance or full tear downs are necessary (i.e., replacing siding and roofing, painting, demolition), wait until bats have left (October to March)
 - Check out the CWF's [website](#), for more information on when it is safest to perform an exclusion.
 - Bats sometimes overwinter in buildings. If there is uncertainty about whether bats may be overwintering in the building, take care to remove boards slowly and examine structural gaps during the renovation process.
- Prevent or minimize access to the roost by people or pets
- Do not alter environmental conditions of already occupied roosts, such as by permanently opening or closing windows or doors, or adjusting other features that may alter airflow or temperature
- Avoid using sticky fly traps outside, especially in areas where bats may be foraging.
- Minimize unnecessary disturbances to roosting bats, including from sound, vibration, lighting, smoke/exhaust, road dust, and other human activities
- Avoid excluding bats from buildings if human conflicts and hazards can be appropriately managed



Bat Box on a Little Brown Myotis Roost; Photo: CWF

Protect and Preserve Trees on Private Land

- Trees planted in the urban environment bring beauty to the area and also help to minimize air pollution, act as natural water filters, provide important habitat for wildlife, etc.
- Attempts should be made to preserve trees on private land, especially larger trees that bats are more likely to use as roosts (those with knots, cracks, woodpecker holes, etc.)

Leave Tree Trunks if Removal is Necessary

- Ensure large diameter decaying trees (trees with a [diameter at breast height](#) (dbh) of at least **30 cm**) remain standing when there are no safety risks, or if those risks can be mitigated - especially if they border important habitat for bats and have useful structures like loose bark, woodpecker holes, etc., that bats can roost in
- If potential roost trees must be removed for safety reasons, try to leave as much of the trunk and bark as intact as possible, retaining a section at least [three meters](#) tall (taller is better for bats)
- To learn more, check out the [Resource Section](#) which has great information on the types of trees that bats will use as roosts and their desired characteristics

Consider Timing Windows for Tree Removal

- Avoid the removal of trees during the maternity season between May and August when females and pups may be present
- If trees must be removed during that window, make sure to perform surveys beforehand to confirm that the target tree is not an active roost. You can find directions on how to perform a survey [here](#)



Large Maple Tree; Photo: CWF

Foraging Habitat

Plant Native Pollinator Gardens

- Add pollinator gardens that include night-blooming plant species that attract moths and other nocturnal pollinators and are hospitable to insects year-round
 - Gardens should be a minimum of 8ft x 4ft (2.4 m x 1.2 m).
- Provide insects with shelter and locations to overwinter
- When gardening for insects:
 - use less hardscaping (less gravel, decking or concrete features)
 - try to leave more fallen plant matter (such as dead leaves, stems or debris) that gives caterpillars a place to hide from predators or places for adults to overwinter
 - Do a clean-up of dead plant materials, consider piling the plant material in a back-border area for use by insects. Insects and many other types of wildlife do poorly in intensively-groomed and tidy landscapes.
 - **Messy gardens are friendlier gardens for insects!**
- Check out the [Resource Section](#) for inspiration and more information on the 3x3x3 gardening strategy, as well as the Bat-friendly gardening guide from BC Bats



Eastern Red Bat

Brock Fenton

Hanging Baskets

- Hang baskets and place potted native plants to create food and habitat for insects. Make sure to include night-blooming plants
- This is especially important in urban areas
- Refer to the CWF's [Native Plant Encyclopedia](#) and the [Resource section](#) for plant suggestions

Convert your Lawn Campaign

- Convert all (or parts) of your lawn to native plants and cover
 - This will help to reduce water, pesticide and fertilizer use.
- Visit the [Resource Section](#) to learn more about existing pledges you could join

Plant Native Trees, Shrubs, and Plants

- Provide food for larvae or adult insects, especially moths, with native plants and shrubs
 - You can refer to CWF's [Native Plant Encyclopedia](#) to see what species would be best. Just perform a detailed search based on your province and select "attracts bats" as the wildlife benefit.
- These areas can range from native plant gardens to trees along fence lines or in gaps between forested areas and wet areas (such as wetlands, ponds or river areas) to provide safe cover for bats flying between day-roosting areas and foraging and drinking habitat
 - Be sure to include night-blooming varieties of plants to attract insects that bats can eat
- *Note: Large non-native trees should not be removed in favour of smaller native trees as they can create important habitat for bats. Native trees should instead be planted to replace large non-native ones as they hit the end of their lifespan*

Native Seed and Tree Giveaways

- Help host a native plant and tree giveaway in your community
 - There may be local organizations/gardening clubs in your area that are already doing giveaways or have connections to local nurseries that could help you organize the event, check out the [Resource Section](#) for more ideas.
- Consider creating a [native seed library](#) to share and exchange with the community
 - This would eliminate the need to purchase or source seeds each year.



Lighting

Turn off Outdoor Lights at Night

- Keep buildings dark at night to encourage use by foraging bats, especially in the spring, summer and fall



Silver-haired Bat

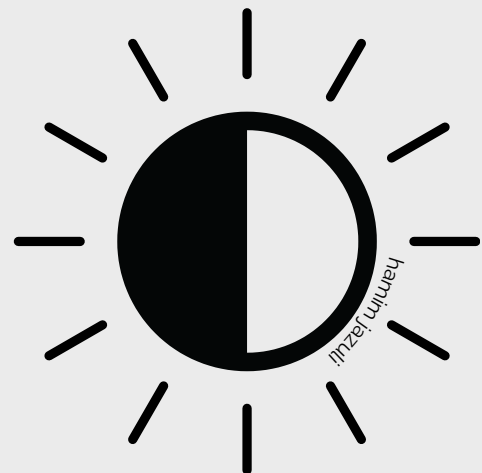
Brock Fenton

Consider Placement

- Do not shine light directly on bat roosts, especially at roost exit or entrance points
- Where possible, avoid the installation of light fixtures in ecologically sensitive areas, such as near ponds, lakes, rivers, wetlands, old forest and other areas used by nocturnal wildlife
- Shield sensitive areas from lighting either by using vegetation or close-boarded fencing

Dimmers

- Avoid the tendency to over-light an area
 - Certain areas may not need to be as well-lit as others.



Motion Sensors

- Cycle lighting schedules to provide dark periods or add motion sensors
- Vary the lighting levels to reflect the changing levels of use, either by reducing light levels or turning them off completely when not needed
 - This adaptive lighting strategy can accommodate human occupational safety requirements as well as the needs of local wildlife.

Pesticide Use

Strategic Spraying

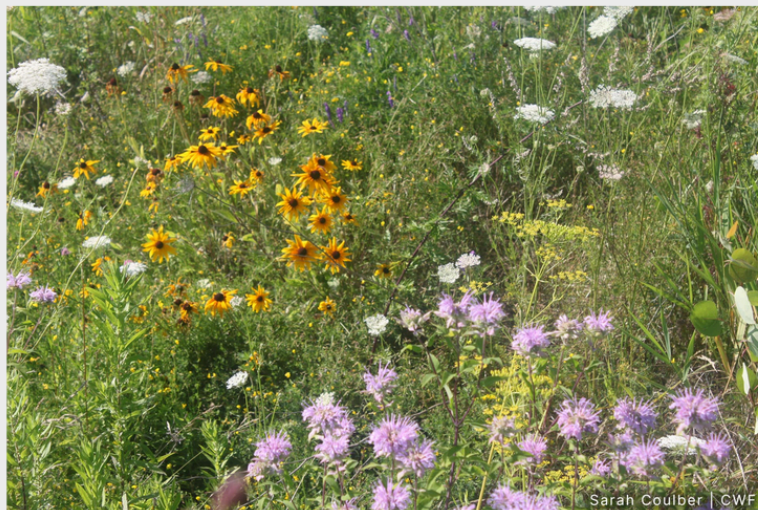
- Avoid the use of fertilizers and pesticides near all water sources and bat foraging areas
- Avoid using pesticides and fertilizers in areas where rainwater run-off may pick up ground-surface contaminants and carry them into the water body
 - It is important to maintain a **15 to 30 metre** buffer between the application site and nearby water sources.

Eastern Small-Footed Bat
Brock Fenton



Reduce Pollution

- Minimize or eliminate the use of fertilizers and pesticides on lawns
 - Pollutants (such as PCBs, heavy metals, cyanide and other compounds) settle into aquatic habitats and can be taken up by larval insects that eventually emerge and become prey for flying bats. They can accumulate in the fat tissue of bats and may cross the placenta into developing bat embryos.
 - These pollutants can also decrease the number of insects in the area and contaminate drinking water.



Invasive Species

Burdock

- Ensure that burdock plants are removed before they go to seed between [July - October](#)
 - The best way to dispose of burdock is to remove plants by the root.
 - Replant native plant species where invasive ones have been removed.
 - Invasive species grow and spread at the expense of native species and can threaten the survival of local populations as they reproduce quickly and are able to adapt to new environments.
 - The removal of burdock is especially important because bats can become entangled.
- Avoid installing bat houses near dense collections of burdock

Big Brown Bat
Brock Fenton



Contact Your Invasive Species Council

- Contact your local invasive species council to learn more about species of concern, what you can do and to report a sighting



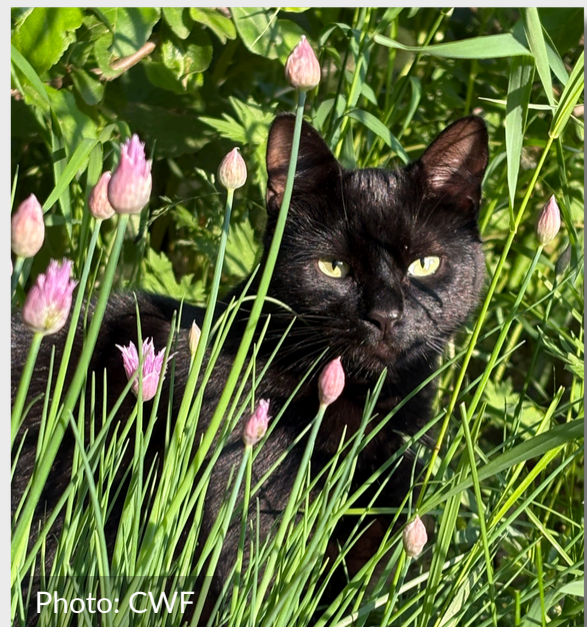
Burdock; Photo: CWF

Control Feral/Outdoor Cat Populations

- Practice resource regulation by removing easily accessible garbage that might attract cats and other scavengers
- Keep barn cats inside at night (starting an hour before sunset) when bats are active between **May and September**

Indoor Cats

- Keep cats indoors full time with “cacios” or at minimum bring cats indoors at sunset, especially from **May to September**
 - The **BC SPCA** offers multiple free DIY designs to suit your individual space (window, enclosed porch, etc.).
- Keep cats on a leash when they are outside to minimize the risk to wildlife



Backyard Structures

Use Bat-friendly Fencing Practices

- Remove old and unused barbed wire fencing from waterways, forest edges, hedgerows, etc., where bats are likely to forage
- Add smooth wire to the top line of fencing to decrease the chance of entanglement

Little Brown Myotis
Brock Fenton



Follow the BC Bats Recommendations for Awnings

- Use the BC Bats ["Don't Squish Bats"](#) project action plan to prevent bats' attraction to and subsequent harm from awnings on buildings, trailers, etc.
 - Solutions listed in the guide, include:
 - Leave areas around awnings brightly lit at night to deter bats from roosting
 - Set up a fan to blow on the awning at night
 - Ensure that awnings do not have gaps along the top and/or sides of the housing mechanism that bats could enter
 - Add a wood strip to seal any gaps between the awning and the building to prevent bats from roosting behind the structure
 - Ensure that awnings are firmly sealed at sunset when bats are active

Stop Bats from Getting Stuck

- Turn buckets upside down and put lids on garbage cans to prevent bats from getting stuck. They can sometimes fall into these structures while chasing prey
- Avoid using sticky fly traps outside, especially in areas where bats may be foraging

Alternative Habitat

Bat Houses

A common way to manage bats is through the installation of bat houses, rocket boxes or condos. Bat houses act as an alternative roost for bats during the spring and summer as opposed to buildings or trees. Bat houses that are installed in conjunction with an exclusion are more likely to become occupied but are unlikely to be adequate to completely replace a roost site in a building.

Check out the CWF's [website](#), for more information and timing windows.

Even though bat houses can be beneficial when paired with an exclusion, they cannot replace complex natural habitats such as an old growth forest, so efforts should be made to conserve and enhance these natural spaces alongside the building of bat houses.

It is important to keep in mind that bat houses are primarily used by only three of our 18 species in Canada - Little Brown Myotis, Big Brown Bats, Yuma Myotis - and even the best bat houses may not become occupied.

Wildlife Conservation Society Canada has just released a guideline for Best Management Practices for the Use of Bat Houses in the US and Canada, which has great information on when it is beneficial to install bat houses. You can find it [here](#). BC Bats also has a [document](#) that outlines when bat houses are most beneficial.

To summarize, bat houses are ideal in these situations:

- **If there has been habitat destruction in the area**
- **If an exclusion is scheduled and alternative habitat is required**
- **For educational purposes**

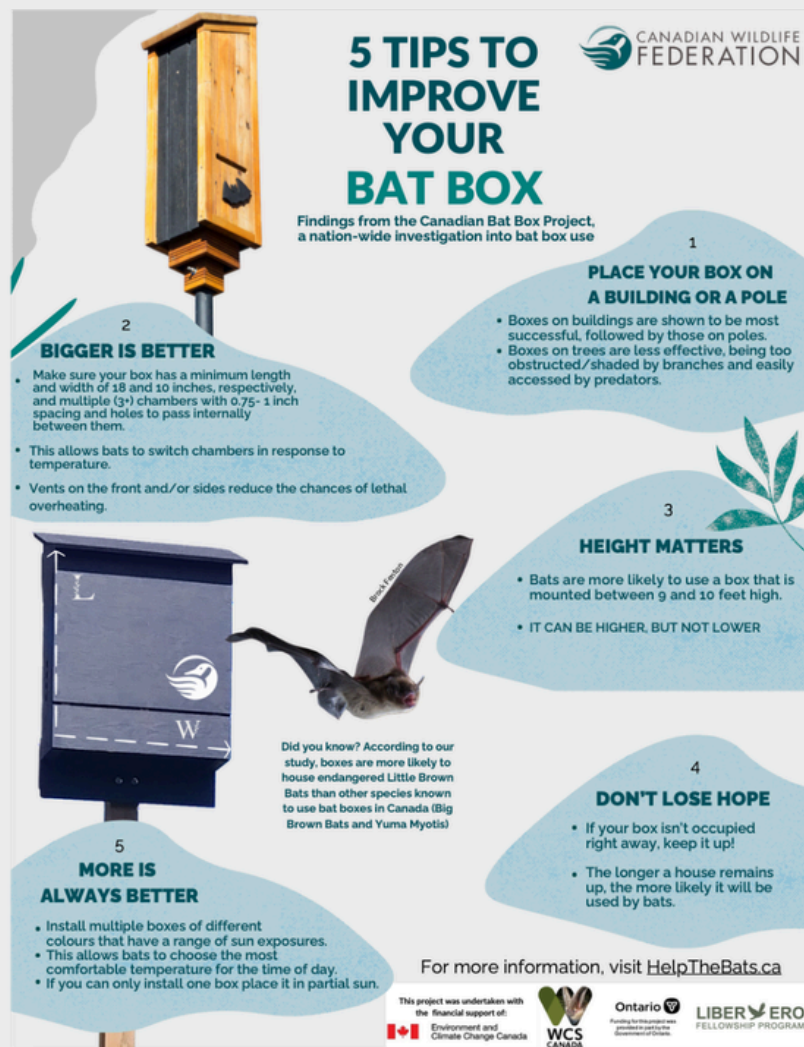
Keeping these reasons in mind, if you are planning to install some form of alternative habitat, please [register](#) it with CWF.



Little Brown Myotis inside a Bat House; Photo: Karen Vanderwolf

You can find CWF's construction and installation guideline which has more information on how to build and install a bat house that meets the recommendations of the *Canada-wide Bat Box Study*, as well as DIY instructions and a list of bat house companies who sell houses that meet the newest recommendations on HelpTheBats.ca.

If you already have bat houses/rocket boxes/condos installed, you do not need to purchase new ones, even if they don't meet the recommendations, but you should [register](#) them with the CWF.



Report a Sighting

By [registering a roost and reporting on its use](#), you can contribute information on the distribution of roosts and the species that use them. This is extremely valuable for research and conservation.

Check each month to see if the box is being used. Here are some tips:

- Fecal matter and urine stains around the box are telltale signs that bats are using the box.
- Listen for sounds.
- Once a month, shine a light into the box to see if it's being used. Note: Don't do this more than once a month as it may disturb the bats.
- Watch the box for an hour or so during sunset when bats would be leaving the box to feed.
- NOTE: Never ever shake your bat house to see if there are bats inside.

For more information, check out the CWF's [monitoring guidelines](#) for more detailed instructions and timelines.



If you encounter a dead bat, contact a regional wildlife agency or public health for collection and submission to the Canadian Wildlife Health Cooperative ([CWHC](#)) (or other) diagnostic centers, for bat health surveillance.

If you find an injured bat, contact a local rehabilitation center or, depending on your province, the [CWHC](#) for guidance.

Remember!

Never touch
bats with
bare hands.

Bats in Your Building

Although there are plenty of misconceptions surrounding bats, risks like rabies and histoplasmosis are legitimate concerns and it is important for homeowners to avoid direct contact with bats and feel they are safe in their own home. While evicting a bat colony will eliminate these risks to humans, improper management of the colony can pose devastating risks to local bat populations, and since some bats that may be found in buildings are legally listed as threatened and endangered provincially and/or federally these situations need to be handled with caution to prioritize the wellbeing of both humans and bats.

If you are wondering about evicting bats, CWF's [guide to managing bats in buildings](#) will walk you through these steps:

Step 1: Assess the Situation

- Determine if the bats are causing major problems and the pros/cons of eviction.

Step 2: Bat Houses as a Management Strategy

- Bat houses can act as an alternative roost, but there are specific factors, in addition to general guidelines, that may make them more favorable for the bats.

Step 3: Get familiar with the Colony

- Figuring out which species is within the building and where, its status, myths and misconceptions, will allow for an informed decision on how to proceed.

Step 4: Eviction as a Last Resort

- If after weighing the pros and cons and having been educated on the realities of sharing a space with bats, it is decided that removing the bats is the best course of action, there are specific steps to carrying this out.
 - Proper timing of an eviction is essential to ensure flightless pups are not blocked inside the building and that the colony has left for the winter. Evictions are best done March-April and September-November. And only in the winter if you can be sure the bats are not overwintering inside the building.
 - Identification of the species of bat that are roosting in the home is ideal prior to an eviction or exclusion. Little brown myotis will leave their summer roost (ex. a building) to overwinter in caves; however, big brown bats are able to overwinter in buildings.

For province-specific guidance, check out batfriendlycommunities.ca.

For information on what to do if there is a single bat in your home, check out these instructions (broken down by season) from [Bat Watch](#).

BAT EVICTION TIMING



Bat removal: There are two common methods for managing a bat colony – eviction and exclusion. These methods are referenced in the table below and must be understood when considering bat removal.

An **eviction** happens when there is an active colony within a structure. A one-way door is installed to allow bats to leave the structure, but they are not able to re-enter the roost.

An **exclusion** happens when a colony is not currently within the structure (for example, when the bats have left to overwinter elsewhere). This is not the same as when bats simply leave in the evening, because typically the entire colony does not go out on a given night. In an exclusion, a barrier is installed to keep bats out, possibly by retrofitting the building and/or sealing entry points.

General Life Cycle of Hibernating Bats	Hibernation		Spring emergence and pregnancy		Pups born	Nursing	Pups able to fly	Mating	Hibernation				
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maternity Roost or Day Roost	Exclusion Possible Check to be certain bats aren't in the roost.		Eviction Possible Bats will have returned from hibernation. Pregnancy is in early stages.		No Eviction Females are in late stages of pregnancy or pups are newborn. An eviction would leave females with no place to give birth or pups would be trapped inside.			Eviction Possible Pups can fly; evicted bats will likely be able to find a new roost or are returning to hibernation sites.			Exclusion Possible Check to be certain bats aren't in the roost.		
Over-wintering in a building	No Eviction Bats are in the roost and would not survive outside temperatures.		Eviction Possible Bats are in the roost, but temperatures are warming up.		No Eviction Females are in late stages of pregnancy or pups are newborn. An eviction would leave females with no place to give birth or pups would be trapped inside.			Eviction Possible Pups can fly. Bats will likely be able to find a new roost.		No Eviction Bats will not have time to find an alternative over-wintering site. They will likely attempt to re-enter the structure or freeze on exterior walls.		No Eviction Bats are in the roost and would not survive outside temperatures.	

For additional information on bats: HelpTheBats.ca

Resources



Resources

Guides

- [Bat-friendly Community Guide](#)
 - This full-length guide is designed to help communities become certified as Bat-friendly.
- [Developed for British Columbia](#)
 - Check out the BC Bats' Bat-friendly Communities: a guide for managing and enhancing bat habitat in British Columbia and their Got Bats? A BC Guide for Managing Bats in Buildings.
- [Developed for Alberta and the Prairies](#)
 - Check out the Alberta Bats' Building Bat-friendly Communities guide and their Managing Bats in Buildings: Alberta Guidelines.



General Bat Information

- [HelptheBats.ca](#) - (Canadian Wildlife Federation)
 - If you would like to know more about our Canadian bat species, you can find information about their size, feeding habits, strategies for winter, lifecycles, photos, threats, etc. on CWF's website.
- [BC Bats](#)
 - The BC Bats website has great information on bat basics, conservation, research, bats and humans, etc.
- [WCS Canada's Alberta Community Bat Program](#)
 - Their website has free guides and colouring books that are easily accessible as well as information about bat basics, managing bats in buildings, bat boxes, etc.
- [Bat Watch - What to do if you find a bat in your house](#)
 - This webpage has detailed information on what to do if you find a bat in your house in either summer or winter. It includes instructions on how to safely capture a bat and what to do if there is a suspected contact with a bat.

Gardening

- [Bat-friendly Plants](#) - (Canadian Wildlife Federation)

- If you are interested in starting a pollinator/bat-friendly garden or would just like to add some bat-friendly plants to an existing garden, CWF's [Native Plant Encyclopedia](#) is a great place to start.
 - If you click the detailed search tab, you can use the wildlife-friendly dropdown to select the wildlife you are hoping to attract and the database will give you the right plants for that goal.

- [Gardening for Pollinators How-to](#) - (Toronto and Region Conservation Authority)

- This document provides great guidance on how to maintain a pollinator habitat. It contains information on required tasks, plant selection, disease control, seasonal maintenance, a team task table, etc. Everything you would need to get started!

- [Quebec Native Plant Guide](#) - (McGill University)

- This guide provides a list of native/naturalized plants that are great for pollinators in Quebec. It contains information about specific pollinators, sun requirements, watering needs, etc., and divides the plants by season to encourage four season gardening.



- [Wildflower Seed Library](#) - (Ottawa Wildflower Seed Library)

- Offers FREE seed packets that can be ordered online or at one of their [events](#) across Ottawa. Each seed packet contains enough seeds for a minimum of three to five plants.

They also have [instructions](#) on how to create your own native seed library which you could use to collect and share seeds with your local community.

- [3x3x3 Planting Method](#) - (Wild Pollinator Partners - Berit Erickson)

- This blog is a how to guide on pollinator gardens for beginners. It details the size of garden you would need to fit a total of 27 plants that will bloom in spring, summer and fall.

The plants recommended in the blog may not be ideal for your particular area, so be sure to check CWF's [Native Plant Encyclopedia](#) for confirmation.

- [BC Bats' Bat-friendly Communities guide](#)

- Has a detailed list of eligible plants and trees (Pages 56-60).

Gardening Continued

- [Gardening for Wildlife - \(Canadian Wildlife Federation\)](#)

- Helps Canadians discover, appreciate, and support our local and migratory wildlife. The webpage includes posters and handouts, gardening-related webinars, native plant suppliers and a [wildlife-friendly gardening certification program](#).



- [Kawartha Lakes Pollinator Garden Guide - \(Kawartha Conservation\)](#)

- This guide has a lot of great information on how to get started creating a garden. It explains how to plant, gives species suggestions, explains how to maintain the garden and includes a list of required materials such as soil, mulch, etc.

The plants recommended in the guide may not be ideal for your particular area, so be sure to check CWF's [Native Plant Encyclopedia](#) for confirmation.

- [Garden Programs - \(Green Venture\)](#)

- Has a list of community gardens on their website and information on the seed library program in Hamilton. They also have information on the types of seeds that are acceptable and seed events that the city hosts. This is a great resource for communities looking to start their own seed libraries and host their own giveaways. Green Venture also has an urban gardening club where volunteers can attend stewardship sessions, hands-on monitoring training and eco-friendly workshops. They also have a list of other workshops that they host during the year on their [website](#).

- [Butterflyway Ranger Program - \(David Suzuki Foundation\)](#)

- According to the David Suzuki Foundation, Butterflyway Rangers “help make their communities greener and healthier (...) Rangers are the public face of the project in their communities.” Rangers receive online leadership training, networking opportunities and are responsible for organizing a small team to help plant at least a dozen pollinator patches. New Rangers are recruited early in the season, usually in February.

Lawn Campaigns

- [Lawn Share Campaign](#) - (David Suzuki Foundation)

- Created a Lawn Share Campaign which encourages individuals to pledge to convert their turf grass into habitat for wildlife with the added goal of decreasing water, pesticide and fertilizer use.

For those who take the pledge, they provide a toolkit that contains information on sustainable lawn care including maintenance tips, habitat-creation guidance, regional plant lists and access to educational webinars.

- [Yard-by-Yard Campaign](#) - (Montreal West)

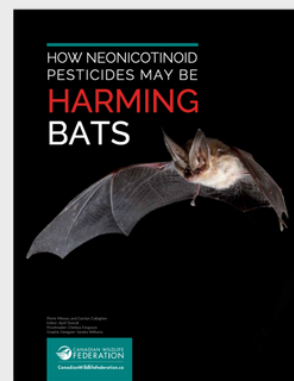
- The Environmental Action Committee of Montreal West has created a Yard-by-Yard Campaign which encourages residents to replace a portion of their traditional lawn with native and pollinator-friendly plants. They have a lot of great information on their website on why native plants are important and offer a yearly workshop which teaches residents how to rewild their yards.

They also host a yearly contest where residents who have re-wilded parts of their lawn can submit photos to be eligible for a cash prize.

Pesticides

- [Neonicotinoid Insecticides and Bats](#) - (CWF)

- This review examines the various lines of evidence that the new systemic insecticides may be putting Canadian bats at risk both directly and indirectly.



Lighting

- [Lighting Recommendations \(FR\)](#) - (Chelsea, QC)

- Created a brochure for their outdoor lighting recommendations (types of lights, where lights should be pointed, preferred colour, etc.) that has a lot of great information. Available in french.

- [Home Outdoor Lighting Assessment](#) - (Dark Sky)

- A guide to reduce light pollution around your home.

Trees

- [Tree Maintenance for Bat Conservation](#) - (Government of Québec)
 - This document created by the Quebec government has great information on Canadian species, tree characteristics that bats rely on, recommendations for the size of tree that should be conserved, how to maintain forest environments for bats, etc.

This document is only available in French.



- [Street Trees](#) - (University of British Columbia)
 - This document from the University of British Columbia contains great information on street trees and how they benefit an urban environment.
- [A Bat Nursery Roost](#) - (Government of British Columbia)
 - An informative guide which details the types and features of trees that bats prefer.

Bat Houses

- [Bat House Builder List](#)
 - The CWF just completed a three year Canada-wide bat box study aimed at determining the factors that increase the chances of occupancy. Based, on the results of this study they have created a list of bat house companies who build houses that meet these new recommendations. Some of the houses on the list have been reviewed by the CWF and are considered ideal for bats.

There are also DIY designs, installation instructions and information on how to monitor your house on their [website](#) as well.

Provincial Guidebooks and Brochures on Bats

- **British Columbia** - [Frequently Asked Questions about Bats](#)
- **Saskatchewan** - [Guide to Managing for Optimal Habitat Attributes Little Brown Bat \(Myotis lucifugus\)](#)
- **Northwest Territories** - [Species Status Report Big Brown Bat, Little Brown Myotis, Northern Myotis, Long-eared Myotis, and Long-legged Myotis](#)
- **Ontario** - [Bats A Conservation Guide](#)
- **Quebec** - [Bat Recovery Team](#)
- **Yukon Territory** - [A guide to Yukon bats](#)

Education

- **[Educational Resources](#)** - (BC Bats)
 - [Bat Toilet Paper Roll Craft](#) - (DLTK's Sites)
 - [Project EduBat](#) - (BatsLIVE)
 - [Video of Someone Reading Stellularuna](#) - (Storyline Online)
 - [Colouring Pages](#) - (DLTK's Sites)
 - [Teacher Resources](#) - (The Teacher's Guide)
 - [Bat Crafts](#) - (DLTK's Sites)
 - [Bat Math Activities](#) - (Math Wire)
 - [Bat Conservation International](#)
 - [White-nose Syndrome Information](#) - (White-nose Syndrome Response Team)
 - [Bat Reading & Making a Bat-shaped Book](#) - (Kid Zone)
 - [Make an Itsy Bitsy Book](#) - (Kid Zone)
 - [Lots of Good Bat Activities](#) - (Kid Zone)
 - [Lesson Plans from BatsLive](#) - (BatsLive)
 - [Paper Bag Bat Puppet](#) - (DLTK's Sites)



Little Brown Myotis - CWF

