



ALBERTA COMMUNITY BAT PROGRAM

ALBERTA BAT ROOST REPORTING AND MONITORING INSTRUCTIONS

Are bats roosting in your buildings or bat house? Or do you know of another place with bats?
If so, report your observations and help us better understand the status and habitat use of Alberta bats
(please check <https://www.albertabats.ca/communityscience> for the latest instructions and forms)

WHAT

This is a citizen-science program to annually monitor bat roost sites and provide information on the distribution and roosting behaviour of bats in Alberta. You are encouraged to report roosts even if you do not intend to conduct ongoing monitoring.

Note: For reports of individual bats (not associated with a roost), please email info@albertabats.ca (especially for unusual observations or mortality events) or upload your observation to the 'Bats of Western Canada' project on iNaturalist. See <https://www.albertabats.ca/communityscience> for additional reporting options.

WHY

Over half the bat species in Alberta are of conservation concern. Human developments have resulted in the loss or degradation of natural roosting and foraging habitats, and there is direct mortality of bats associated with wind energy production. Perhaps most concerning, a fungal pathogen associated with white nose syndrome is continuing to spread across North America, and when it reaches Alberta, has potential to cause a precipitous decline in our bat population.

To be able to effectively manage and conserve bats in the face of the many threats, we need to collect basic information on their biology and to monitor changes in their population from year-to-year. Understanding the characteristics of structures that bats use for roosting in the province will help us develop better management recommendations and more effective habitat enhancement projects needed for bat conservation and recovery.

WHO

Anyone who is interested in collecting valuable information to help monitor our bat populations, and/or who have discovered a bat roost and wish to report its location.

WHERE

A site on your property or somewhere else where bats are known or suspected to have been roosting – such as abandoned houses, attic, barns, church steeples, bridges, bat-houses, trees, rock-crevices, and other structures. Reports on bat houses are needed, regardless of whether they have been used. If it is not your property, ensure you have permission to be there after hours – note that a permit may be needed on some public lands.

WHEN

Ideally, conduct four bat counts per summer – **two counts** before pups can fly (“pre-fledging”; approximately June 1st to July 15th; June 1st to July 7th is ideal) and **two more counts** after pups can fly (“post-fledging”; approximately July 15 to August 15; July 15 to August 7 is ideal). Doing all four bat counts will allow us to best compare data from year to year and between sites. If it is difficult to do four counts, consider the following options (any level of reporting is greatly needed):

- Level 1: **Bat Reporter** – 1 count prior to young beginning to fly (June 1st to July 14th)
- Level 2: **Bat Tracker** – 2 counts prior to young beginning to fly (between June 1st to July 14th)
- Level 3: **Bat Enthusiast** – 2 or more counts prior to young beginning to fly (between June 1st to July 14th) and another 1 or 2 counts after young begin to fly (about July 15 – August 15).

Note: To help reduce ambiguity, earlier counts (June 1st to July 7th) are preferred for the pre-fledging period, while late July/early August is preferred for the post-fledging period. Aim for earlier within the recommended time windows for warmer regions of the province. Ensuring consistent timing among years is preferred.

Check the forecast a few days in advance and try to plan the count for a night when conditions will be optimal. Air temperature should be at least 12°C (down to 8°C is acceptable in cooler regions of the province, or during early spring) with low wind speed and no precipitation. Some bats will not fly if it is too cold, windy or drizzly, and roost emergence counts under non-ideal weather conditions will underestimate population size.

Avoid inspecting the roost immediately prior to deciding whether to do a count (to avoid bias). Complete the count even if you suspect there are no bats (zeros are important data too). If bats were not observed during the counts, but were seen other times of the year, this information can be included in the comment section of the roost report. If this is the first time the roost is being monitored, a trial night may be needed to figure out where bats are exiting. Note that bats in trees and rock-crevices are often only present for one or two nights, requiring the count to be completed the same day the roost was discovered.

WHAT TO BRING

- ✓ A current Bat Count data form (you can download a pdf here: https://www.albertabats.ca/wp-content/uploads/ACBP_CitSci_Form_2023.pdf)
- ✓ A calendar of sunset and civil twilight for your area (can be downloaded from www.sunrisesunset.com/Canada/)
- ✓ Pen or pencil
- ✓ A tally counter (hand clicker) or piece of paper to tally the number of bats
- ✓ *Optional:*
 - Video camera if you have one. That way you can film the emergence of bats but count them later (and be able to rewind) for more accuracy.
 - Chair or mat to sit on, blankets and warm clothes
 - Thermometer. Otherwise try to get the temperature from another source.
 - DNA Collection supplies to collect guano if this is the first time the site is being counted and bats species have not been identified. Recommended supplies include a pair of disposable gloves and

a small paper envelope. See the “DNA Collecting Protocol” at <https://www.albertabats.ca/communityscience>

HOW

- Give your site a name if it doesn't already have one (e.g. “Jenny’s garage” or “Sanca Cabin”). You'll use this name for future submissions, so please remember what you called it.
- Arrive at your bat roost by 15 minutes before sunset. Bats may begin to emerge around sunset so don't be late! Some species may emerge closer to civil twilight so don't worry if it takes time for bats to emerge.
- Locate potential exits (and make notes for future reference). Sit or stand outside so that the bats' exit point is visible from a comfortable distance. More than one person may be needed if bats are exiting from multiple points. Try to have the light sky behind the bats exit point, to make it easier to count.
- Count bats for one hour or until it is too dark to see, whichever comes first.
- If possible, avoid using a flashlight because some bats may avoid exiting if there is too much light. If a red filter can be applied to your light, you may find that this aids in counting without disturbing bat emergence, as bats do not see well in the red light spectrum; however, if you can count without any source of light, this would be best.
- Tally the bats as they fly out for their nightly insect-eating. You may wish to use a hand “clicker” to make counting easier.
- If bats fly back into the roost, stop counting until an equivalent number have re-exited (but don't subtract from your total). Therefore, the resulting count will be the minimum number known to be in the roost and will avoid double counting the same individual multiple times. For example, if 5 bats exit, 1 re-enters, and then 2 leave, the final count would be 6. Alternatively, if 5 bats exit, 2 re-enter, and then 1 leaves, the final count would be 5. If you are uncertain whether a bat re-entered a roost, then just use your best judgement.
- Make notes of any bat droppings (guano) you see (Figure 1). Piles of guano often accumulate on the ground under where bats are roosting (only look if this can be done without disturbing bats). It may also be stuck to the sides of buildings, windows, or on green vegetation. Guano is usually black, and about the size and shape of rice. It consists of ground up insect parts, and never has green vegetation (which would suggest it is rodent feces) or a white creamy paste (which is indicative of birds). If the species using the house has not been identified, consider collecting a sample for analyses. See “DNA Collecting Protocol for Residents” at <https://www.albertabats.ca/communityscience>.
- Make notes of any assumptions, issues, or quality concerns with the count and report them on your form.
- Email your form to roostreports@albertabats.ca (please also attach relevant photos). The form may be completed digitally (using the [fillable pdf form](#)) or by hand and submitting a photo of the completed form.
- **Do not** enter bat roosts or handle the animals.
- **Remember, the absence of bats (a count of zero) is valuable data too! Please report this information.**



Figure 1. Little brown bat guano

Please see <https://www.albertabats.ca/communityscience> for more information

*** If possible, please submit forms and guano samples by September 30 ***

Have questions or comments? Please do not hesitate to contact us!

info@albertabats.ca