

Information to Consider

- **Sensitive Timing:** October 1 – April 30
- **Temperature:** A key feature is stable temperature. Generally, preferred temperatures are above freezing and below 9°C.
- **Relative Humidity:** Most bats prefer very high relative humidity (90-100%) within hibernation sites.
- **Airflow:** Prefer sites with very little airflow to limit water loss.
- **Light levels:** Hibernacula are generally dark.
- **Disturbance:** Hibernacula are secluded sites with little disturbance from human activity.
- **Caves and caverns:**
 - size of openings used by bats is highly variable but generally > 30 cm
 - sites where openings are covered by dense vegetation may not be useable by some bat species. Light foliage is not an issue.
 - bats generally avoid sites that flood, although cave hibernation sites often have interior water sources
- **Rock/erosion crevice:**
 - a crevice/fissure must be 1-2 cm wide or more
 - must provide a protected, dark, quiet area
 - must run deep enough under the frostline to have stable temperatures

A BAT HIBERNACULUM

Definition

A site where one or more bats hibernate in the winter (hibernacula [plural]).

Location

- Typically in undisturbed areas with exposed rock close to foraging habitat; cave features in karst deposits

Features

- Most often caves, cliffs, rock crevices, or abandoned mines that provide cool, constant temperatures and protection from the elements and predators
- Bat droppings may be present; urine staining; remains of insects; live or dead bats may be present indicating use
- Entrances can be large and conspicuous or small and obscure
- Chambers in caves are typically deep and quite large; crevice-roosts can have very narrow openings but extend deep under the frost line
- Large trees within a few 100 metres of the roost may be used for roosting at times through the hibernation period

Notes

- Several species of bats may use the same hibernaculum
- Hibernacula are used year after year
- There are no BEC associations of hibernacula
- **White-nose syndrome decontamination protocols are required when entering bat hibernation sites to protect bats.**

Similar features to a Bat Hibernaculum

Bat nursery roost- how to distinguish:

- Nursery roosts are very warm locations often located in trees or shallow rock crevices, not cold sites like caves or old mines
- Nursery roosts are active during the spring and summer, whereas hibernacula are used during the winter



Photos left to right: Province of British Columbia, Anna Roberts, Paul Griffiths

IDENTIFYING AN OCCUPIED HIBERNACULUM



Skeletal remains of bats may be evident in some locations. Accumulations of bones may occur or single skeletons. (Photos: Martin Davis)



Hibernating bats may occur in groups or as single bats. Groups of bats may consist of a single species or multiple species. Some species prefer to roost in the open while others will find crevices & holes within the hibernaculum to hide. (Photos: Martin Davis)



Bat Guano (feces): Similar in size, shape and colour to mouse droppings. Easily crush into a rough powder of undigested insect parts. Big brown bat (left); little brown myotis (right) (Photo: Cory Olson)

Bats flying at an entrance:

- In autumn, at dusk, bats may be seen emerging from, or flying around, the entrance to underground features.
- Sites with a great deal of bat activity in the fall may indicate a “swarming site”, where bats congregate for pre-hibernation courtship and mating.
- Bats may also use swarming sites for hibernation. The presence of autumn bat activity may indicate the location of a hibernaculum.

Body Oil Staining:

- Bat fur contains oils that may leave a residue or mark on roost surfaces.
- These darkened areas are usually where bats have roosted for many years.