

NWT Species at Risk Northern Myotis

Northern Myotis Classroom Kit Teacher's Guide

Dear Educator:

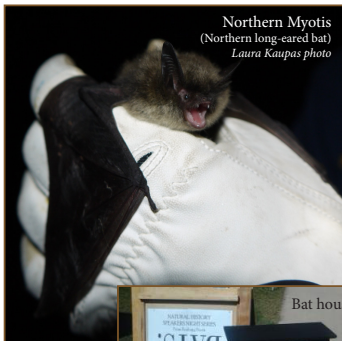
Welcome to Ecology North's Northern Myotis Classroom Kit! This resource has been developed to support ENR's Species at Risk program – for the northern myotis. The aim of the resource is to provide teachers with interactive, fun and fast ways to educate and excite their students about a little known species found in the southern most section of the Northwest Territories.

Science and Technology Curriculum Connections:

Grade 4 – Habitat and Community

Grade 5 – Conservation of Energy

Grade 6 – Diversity of Living Things



Northern Myotis
(Northern long-eared bat)
Laura Kaupas photo



Big brown bat
Jesika Reimer photo



Bat house



Baby bat
Laura Kaupas photo

Fun Bat Facts: Northern Myotis (*Myotis septentrionalis*)

I look a lot like another bat (The Little Brown Myotis *lucifugus*) that also lives in the NWT. We are really difficult to tell apart from a distance! We are a similar size and colour and sometimes we even use the same roosts (summer sleeping area) and **hibernacula** (winter hibernation area). I have longer ears and my tragus (fleshy part that covers the entrance of my sensitive ears) is long, slender and pointed. My species used to be called the northern long-eared bat, but now we are known as the Northern Myotis.

Though we look like mice, we are more like tiny flying grizzly bears (brown and furry). The females only have one pup each year – the pups are born in June and must be ready to hibernate only a few short months later. However, we can live for a long time, up to 36 years! Since we don't have large litters, we are considered to be sensitive to population decline.

We are animals that are safer by living together...though we hunt on our own. We live in colonies (groups) in buildings, tree hollows and under tree bark, in rock crevices and caves. We can live longer if our colony stays healthy and our roosting and hibernation sites are undisturbed. Learn more about bats in the NWT here: <http://www.enr.gov.nt.ca/programs/wildlife-management/bats>.

We eat insects! I'm nocturnal and only come out at night, so I need to make the most of my time to gather as many insects as possible to fuel me with enough energy. I can eat my body weight in insects every night – can you imagine eating your body weight of food? I can eat 600 mosquitos in one hour! We weigh the same amount as a toonie! Due to the long daylight hours in the sum-

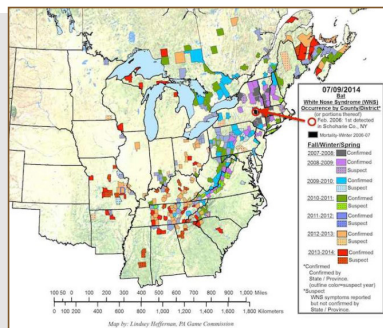
mer, when we come out we feed as fast as we can, we don't even take a rest break, so that we can eat as much as possible in the summer twilight.

In the winter we slow down our metabolism so we conserve our energy gathered in the summer. We can drop our body heat as low as the rocks in our cave. Watch this neat video about Little Brown Myotis hibernation: <http://www.arkive.org/little-brown-myotis/myotis-lucifugus/video-00.html>

I use energy in the form of sound waves to find food, it's called 'echolocation'. I can tell the distance, speed, direction, texture and size of objects and prey by calling out and listening to the sound waves coming back at me!

We like to look for food in the edges of forests and near overgrown trails. We are considered "gleaners", as we pluck insects from the surfaces of leaves, branches, and the ground rather than taking them from the air in flight. We hang from a perch to eat, which lets us take larger insects than they if we ate on the wing. http://www.mnh.si.edu/mna/image_info.cfm?species_id=200

Scientists are still trying to learn more about where we live in the NWT. Right now, they know we live in the South Slave and Dehcho regions. You can build a bat house (like a bird house) and help me feel more at home in your community! When we find a place to live, we make sure it is very energy efficient – in the summer we need warm house and in the winter we live in caves that stay above 0°C and the only fuel we have is the food we ate all summer. For this reason, we like small spaces that are well-sealed. Learn more here: <http://www.thebatcave.ca/page19/page19.html>




Why am I at risk?




There is a disease that is spread by a fungus called "White Nose Syndrome" (WNS). If one bat gets infected with it, it will spread to the entire colony that roosts together during hibernation. It is very serious as it causes a white fungus to grow on our muzzle (nose and mouth) as well as our wings, while we hibernate. This infection causes us to feel itchy and it wakes us up during hibernation. This causes us to lose body weight and even do weird things like fly outside in the day in the middle of winter! When bats get this disease they almost always die. The map at the left shows the areas where WNS have spread.

What can you do to help?

A map documenting the spread of white nose syndrome is available at www.whitenosesyndrome.org. Fortunately it has not been reported in the north and steps need to be taken to ensure that it does not spread any further. A great step is to help educate others about bats.








Educators:

 View the video of researcher Laura Kaupas, talking about bats in the NWT. This video is available by clicking the bat icon on the Ecology North website (www.ecologynorth.ca). While viewing the video, pause the video at each question and discuss with your students, think about the question, and see the researcher's response.

-  Where do bats live in the Northwest Territories?
-  How many pups do they have?
-  How do bats deal with the short summer nights in the Northwest Territories?

Be sure to visit Ecology North's website (www.ecologynorth.ca) on a regular basis – look for the bat icon for the latest on bats in the NWT.

Here are some ways you and your students can get involved!

-  Spread the word – bats do live in the NWT! The benefits of bats include: they help control insect populations, which helps the forest, farmers and all people.
-  Do not enter bat caves - bats are not going to hurt people and they must be treated with respect.
-  Engage your students by using the poster, information and tattoos (need more? Contact Ecology North www.ecologynorth.ca)
-  Play the “White Nose Game” to reinforce the idea that white nose syndrome is easily spread .
-  Canadian Wildlife Federation is giving away free bat boxes (bat houses) to schools and other groups. Request one through the website <http://cwf-fcf.org/en/do-something/challenges-projects/help-the-bats/>
-  Organize a classroom or school fundraiser – challenge your students to organize a fundraiser and use the proceeds to purchase bat houses, or donate to an organization that helps bats.
-  Have a bat house building session and install them in areas where bats can use them.

“Our class ordered bat boxes from the Canadian Wildlife Federation and put them up in our backyards and we did a fundraiser with recycling electronic waste.” Ellie Baxter Grade 4 Teacher -Hay River, NWT.

White Nose Syndrome Role Play Game

Gather up your class and have them huddle in a group. The students need to pretend that they are hibernating bats. Starting with one student – rub some white sunscreen, or white paint on each student's nose. Once a student gets “white nose” they must start to wake up and start to pretend that they are itchy – some can even move away from the group – they must all sit/lay down on the floor and “play dead”. This should illustrate how white nose syndrome is a very serious threat to bats.

Craft Corner

Here's a simple hanging bat craft – use brown foam and fake fur if possible! <http://www.hgtv.com/handmade/halloween-kids-craft-hanging-foam-bats/index.html>

This kidzone site has book templates, bat worksheets, information on bat behaviour and life cycle worksheets.
<http://www.kidzone.ws/animals/bats/activities.htm>

A simple bat craft that uses a clothespin.
<http://www.enchantedlearning.com/crafts/halloween/batclip/>

There are many other great craft ideas on the internet. Search on “bat crafts, or bat activities” as well as “northern myotis photos”.

Websites

- www.yearofthebat.org
- www.bats4kids.org
- www.nwtspeciesatrisk.ca
- <http://nwtspeciesatrisk.ca/en/content/northern-myotis>
- <http://www.nwtspeciesatrisk.ca/en/news/guide-species-risk-nwt-2014-edition>
- <http://www.enr.gov.nt.ca/programs/wildlife-management/bats>.
- http://www.mnh.si.edu/mna/image_info.cfm?species_id=200
- www.whitenosesyndrome.org
- <http://www.thebatcave.ca/page19/page19.html>
- www.ecologynorth.ca
- <http://www.arkive.org/northern-long-eared-bat/myotis-septentrionalis/>
- <http://www.natureserve.org/explorer>
- <http://www.batcon.org/index.php/all-about-bats/species-profiles.html?task=detail&species=2306&country=43&state=all&family=all&start=25>
- wildlifeobs@gov.nt.ca

Glossary

Boreal forest: The sub-Arctic forest of the high northern latitudes that surrounds the North Pole and is mainly composed of coniferous trees.

Echolocation: Detecting objects by reflected sound. Used by bats and odontocete cetaceans (toothed whales, dolphins and porpoises) for orientation and to detect and locate prey.

Hibernation: A winter survival strategy in which an animal's metabolic rate slows down and a state of deep sleep is attained. While hibernating, animals survive on stored reserves of fat that they have accumulated in summer.

Ovulation: In female mammals, the release of a ripe egg from an ovary (one of the paired reproductive organs).

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