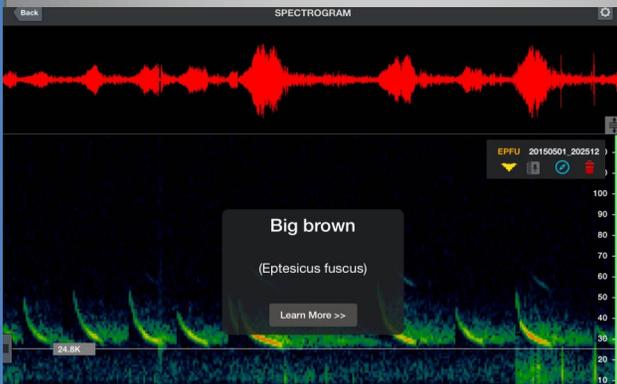




How Does Acoustic Bat Monitoring Work?

To be able to conduct acoustic bat monitoring in Wisconsin, volunteers are trained on how to use the handheld ultrasonic detectors, better known as bat detectors. The system consists of a detector that records the ultrasound, a PDA that displays the bat calls on a graph of frequency overtime, and a GPS unit that tracks the route taken and pinpoints each bat call.

Data is saved on PDA and later analyzed in the office. Like birds, bat species have different calls, by looking at the frequency, shape and other characteristics we can identify the species of bat that was recorded.



This is an example of what you will see when you pick up a bat in the area. You can identify from the waves when they search, pursue and capture.

Awesome Bat Facts:

- Bats can fly at speeds reaching 60 mph.
- Bats can find their food in total darkness. They **locate insects by emitting inaudible high-pitched sounds**, 10-20 beeps per second and listening to echoes.
- There are 1,100 species of bats worldwide – making up **one-quarter of the world’s mammal population**. There are forty different species of bats in the United States.
- There are only three species of "vampire bats" – bats that live off the blood of animals. None of those species lives in the United States.
- Bats can eat up to 1,200 mosquitoes in an hour, and often **consume their body weight in insects every night**.
- More than half of the **bat species in the United States are in severe decline** or listed as endangered.
- Bats can live to be more than **30 years old**.

Interested in conducting your own acoustic bat surveys contact:

Wood County Land Conservation Department

(715) 421-8475

landcons@co.wood.wi.us

Acoustic Bat Monitoring





Bats in Wisconsin

Wisconsin has 7 bat species all of which are insectivorous, meaning they feed mainly on insects. These bats use echolocation to navigate and capture prey. Four species are cave bats, which hibernate in caves and mines in the winter. These are the bats that are susceptible to white-nose syndrome. The other three species are known as tree bats, which migrate to the south during the winter.

Bat populations are susceptible to decline because of low reproductive rates. Many species congregate at limited locations during critical stages of their natural cycle. Our lack of information on bats is our greatest limitation to conservation of bat species.

With white-nose syndrome becoming more of a threat to bats our involvement is critical to help collect information to obtain baseline populations and distribution studies and to evaluate species status as the disease spreads.



7 Types of Bats

Cave Bats

- Little brown bat
(*Myotis lucifugus*)
- Big brown bat
(*Eptesicus fuscus*)
- Northern long-eared bat
(*Myotis septentrionalis*)
- Eastern pipistrelle
(*Perimyotis subflavus*)

Tree Bats

- Silver-haired bat
(*Lasionycteris noctivagans*)
- Hoary bat
(*Lasiurus cinereus*)
- Eastern red bat
(*Lasiurus borealis*)

Bats are very important for insect control in agriculture, forestry and humans! Pest-control services provided by bats in the United States likely save the U.S. agricultural industry at least \$3 billion a year .

Acoustic Bat Monitoring

Bats use echolocation to navigate and hunt. Their echolocation is in the ultrasonic range which means it is above human hearing. Special ultrasonic detection equipment has been developed so that we can hear the bats.



3 Types of Acoustic Bat Monitoring

- Land
- Water
- Driving

Timeline: April 1– September 30. Surveys begin one half hour after sunset and run for at least an hour.

