



CLOCKWISE, FROM LEFT: Male Little Brown Bat from Fuller Lake. Close up of bat feet. Indiana bat from Batchtown Landing.

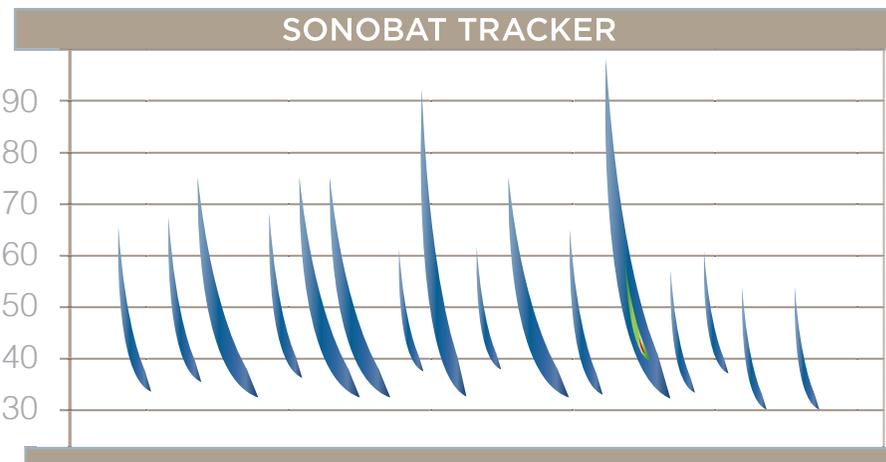
reserves during cold weather. According to McGuire, since it was first documented in New York during the winter of 2006-2007, WNS has killed more than 5.5 million bats in the northeastern United States and eastern Canada. In some areas, 90 to 100 percent of bat populations have died as the disease has rapidly spread across the eastern and midwestern United States, according to a USFWS fact sheet.

This year, SCI Engineering caught a total of six Indiana Bats by placing three “mist” nets that are made of nylon mesh and suspended between two poles. The nets were placed at various sites for two nights each, over three weeks in June. The researchers also caught a variety of other bat species, including Little Brown Bat, Red Bat, Big Brown Bat, Evening Bat and Tri-Colored Bat. Some bats were then tagged with a radio telemetry tracking tag, which enabled the biologists to “follow” them to their “day roost tree,” where the bats perch to sleep. Devices at each mist net site recorded bat calls in the immediate area, allowing the researchers to document additional species of bats that might not be physically caught. The team could then determine which bats were present through listening for the frequency and duration of the calls.

All the data collected will be shared through a science support partnership organized by the USFWS and the U.S. Geological Survey. The goal of the partnership is to improve the understanding of bat populations and the impact upon bats coming from extreme loss of roosting and foraging habitat. Data will be used to help improve the habitat of Indiana Bats and help everyone avoid negatively impacting the species through poor management practices.

“When many people think of wildlife, they may think of deer and turkey, but there are all these other species to consider, including bats,” Deutsch said. “They are all part of the bigger ecosystem and support the food web.” Bats consume a lot of pests and are a benefit to the economy because they eliminate a lot of pests that damage food crops.

Dead trees in the landscape can be a benefit to bats and a whole host of other wildlife. If you own land and have dead trees on your property that do not endanger people or buildings, leave them standing and see what might make a home or forage in your tree. For more information on bats and bat monitoring or locations of this year’s surveys, you are invited to contact the Rivers Project Office at (636) 899-2600 or riversproject@usace.army.mil.



This graph shows a portion of a Northern Long-Eared Bat (*Myotis septentrionalis*) call. The program analyzes bat calls based on the frequency and duration of the call’s pulses and runs them through about 70 parameters for each pulse to determine a maximum/minimum likelihood that the call is of a certain species.

SURVEYING BATS

One Important Aspect of Wildlife Management Along Our Rivers

To better understand the composition of ecological habitats in their management of public lands, the Army Corps of Engineers inventories a variety of animal species - including bats.

According to Charlie Deutsch, supervisory wildlife biologist at the St. Louis District’s Rivers Project, to better understand which species are using the lands along the rivers they, along with natural resource managers from other agencies, monitor bats on a regular basis using field surveys. This monitoring helps the Corps make better decisions when planning projects and developing management objectives. For example, Deutsch said, some bats favor more open forest communities. If there is a significant number of those bats, foresters and biologists may utilize timber stand improvement techniques in order to thin the forest in an attempt to provide a better habitat.

The U.S. Fish & Wildlife Service (USFWS) establishes protocols for bat monitoring to ensure consistency by various agencies. The Rivers Project Office in St. Louis started conducting bat surveys in 2010 on a biannual basis to specifically document endangered species on Army Corps of Engineers’ property.

“There’s lots of potential for species to completely disappear,” said Rivers Project Office Wildlife Biologist Ben McGuire. “Habitats for bats are disappearing and species numbers are continuing to decline.”

This year, the Rivers Project Office and its contractor, SCI Engineering, Inc., monitored the federally endangered Indiana Bat, *Myotis sodalis*, and the Northern Long-Eared Bat, *Myotis septentrionalis*, which may be listed endangered in the near future, McGuire said. The Indiana Bat was listed as endangered in 1967 and was one of the first species listed as endangered by the USFWS.

One factor contributing to the decline in bat populations is White-Nose Syndrome (WNS), which affects hibernating bats, including the Indiana Bat, the Northern Long-Eared Bat, the Little Brown Bat, the Tri-Colored Bat and the Big Brown Bat. WNS is characterized by a white fungus, possibly *Pseudogymnoascus destructans*, which appears on the muzzle and other parts of the bat. WNS affects the bats’ immune system, burning through their energy

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