



## Little Brown Bat

### *Myotis lucifugus*



Little brown bat cluster. FWS/Keith Shannon.

### Field Notes

#### General Description

The little brown bat, or little brown myotis, is a member of the large and well-known Vespertilionidae family of bats. With a wingspan of 9 to 11 inches, it weighs only about half an ounce. Its specific name, *lucifugus*, comes from the Latin “lux,” for light, and “fugio,” meaning to flee—true to its nocturnal nature. Its variable coloring tends to be cinnamon-buff or brown on the back and yellowish or olive brown underneath. The fur on its back has a metallic sheen, and its ears are glossy dark brown.

#### Habitat and Range

This species ranges from Alaska south to central Mexico, although its core population is in the northeastern US.

While little brown bats occupy a wide range of habitats, including forests, shrublands, and grasslands, they need access to protected roosting sites. In the summer, they’ll find dark, warm roosting sites in the attics of buildings, under bridges, in hollow trees, and in caves. Over the winter, in the eastern US, they’ll congregate in the tens and thousands to hibernate in moist caves or mine shafts that keep a constant temperature—just above freezing.

Less is known about their winter roosts in the West, which appear to be less populous and more dispersed.

#### Reproduction and Life History

In the fall, little brown bats congregate at “swarming” sites outside of cave or mine entrances to mate. Females actually delay fertilization until spring, storing the sperm overwinter. After a 2-month pregnancy that begins in spring at maternal nursery roosts, females give birth to one pup in the summer, which they catch in their tail membranes as it emerges. Most little brown bats live just under a decade, but some live up to 20–30 years, making them one of the longest-lived small mammals.

#### Diet

Little brown bats forage over water for insects, such as midges, mosquitoes, mayflies, and caddisflies. They also hunt moths, beetles, and other insects over forested and open landscapes. Little brown bats can eat up to 1200 insects an hour during their peak feeding time—sparing us all a few mosquito bites.

#### Behavior

As daylight fades, these bats emerge from daytime roosts to feed, being most active during the first 2 to 3 hours after sunset, and then again for a second bout of foraging after midnight. By bouncing sound waves off objects (echolocation) up to 200 times/second, these bats can zero in on tiny insects in complete darkness. A smaller appendage (the tragus) at the base of the large outer ear helps to pinpoint their targets.

## August 2016

#### Conservation

Little brown bats were a common species until the arrival of a deadly disease in New York in 2006: White Nose Syndrome (WNS), caused by the fungus, *Pseudogymnoascus destructans*. Over 6 million bats in North America have succumbed to it, including over 1 million little brown bats. The fungus gives the muzzle a powdery white appearance and infects the skin, damaging wing tissue essential to flight. Bats with WNS also deplete precious fatty deposits over the winter by waking up more frequently (as often as every 2–4 days) than normal (every 13–15 days). Until WNS was detected in Washington State in March 2016, the disease was concentrated in the eastern US. Little brown bat populations appear to be in severe decline as a result of WNS.



WNS symptoms: white muzzle (above); damaged wing tissue (right).

FWS photos

#### Where to See

The little brown bat is probably present at Whiskeytown NRA and occurs in all of the remaining Klamath Network parks.

#### References and Further Reading

Bat Conservation International:

<http://www.batcon.org/>

Western Bat Working Group

<http://wbwg.org/western-bat-species/>

<https://www.whitenosesyndrome.org/>