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White-nose Syndrome *by April Arrowood*

On April 2, 2015 the northern long-eared bat was federally listed as a threatened species, not from habitat loss or wind farms, but from a disease that arrived in New York in 2006. This disease often abbreviated WNS hit the bat populations hard, specifically for Myotis species, which are the majority of Wisconsin's bats. This fungal disease called White-nose syndrome forms white fungus hairs on the bats nose and wing membrane. The Northern long-eared bat (*Myotis septentrionalis)* has been hit the hardest by the disease. The disease spreads through bat populations during winter hibernation. WNS causes dehydration and weakness which leads to bats becoming active during winter in search of water to drink. The bats fly to the ground and search until they become too weak or cold to fly or climb back up to their roost and there they freeze.

WNS was officially identified in Wisconsin in spring 2015 from several samples collected from hibernacula in southern Wisconsin. Currently, no known hibernacula in Menominee County have been identified as having WNS, but counties North, South, East, and West of Menominee have identified the fungus in their mines and caves. The most dangerous time for the bats to encounter the fungus is primarily during winter, when the bats must migrate to a hibernacula to wait out the harsh winter. Squeezing into cramped caves and mines, the bats come in contact with hundreds even thousands of other bats from counties and states away. In recent studies, some infected bats in captivity have been able to survive and recover when given access to water during their restless hibernation.

About the Northern Long-eared Bat

Myotis septentrionalis is a small bat 3-3.5 inches long in body with 9-10 inches of wing span. When they aren't hibernating, these bats prefer to roost during the day in forests, using tree cavities or under loose bark on dead or dying trees. Unlike little brown bats and big brown bats (both Myotis species), this bat doesn't commonly roost on man-made structures. Like our other bats, these bats primarily eat insects under the forest canopy during the night. June beetles, moths, flies, caddis flies, spiders, and other insects active at night are the primary food source. One northern long-eared bat can eat thousands of insects in a single night keeping pesky insect

and spider populations down. Foraging for insects occurs within the first 2 hours after sunset. Unlike other bats, this species doesn't catch insects in flight; instead they swoop down on their targets and pluck them off surfaces under the forest canopy. Long-eared bats have a larger wing area than other Myotis bats, which allows them to maneuver tight spaces in a cramped forest setting and to fly slower with greater balance so they can use their wing membranes that extend down their legs and tail to scoop their prey up without ever landing.

Long-eared bats typically roost individually or occasionally in groups of 2-3, with the exception of gravid females and females with pups, which form maternity colonies of as many as 60 bats. Individually, these bats don't roost in the same area night after night. Instead they move around and roost in a different location almost every night.

Photo by New York Department of Environmental Conservation; Al Hicks

When encountering a bat at home it is important to know that the rates of rabies are less than one percent no matter the species or location. These rates are so low that focus should be put on safely removing the bat so it can continue to be an ecological benefit. When a bat is sick, signs like active during the day, disinterested in drinking, and crawling around on the ground should be a warning flag that something is wrong and it could be rabies. But a bat infected with rabies may not always appear sick especially in bats where the disease may not be developed enough to cause symptoms. Don't try to handle any bat that you don't have to handle to remove. Try other methods like opening a window or door and wait to see if the bat flies out on its own. If not, use a towel, blanket, or pillow case while wearing hand protection for assisted removal. Otherwise call a local animal control to do all the risky handling business for you.