

LITTLE BROWN BATS IN LES CHENEAUX

S. Myers

March 2017

The Little Brown Bat (*Myotis lucifugus*) is our most common Les Cheneaux bat species. Little Brown Bat populations have been declining drastically across the USA in recent years due, primarily, to a fungal infection known as White Nose Syndrome (WNS). An informal 2016 Watershed Council survey indicated, although LCI bat numbers were down, we do have a surviving population.

Although there is little we can do beyond preserving bat habitat to combat the decline of the populations, we can monitor populations and report our information to researchers and those responsible for protecting our wildlife. This is the goal of the current bat monitoring project.

The LCWC Bat Monitoring project seeks to obtain a general idea about the effect of white nose syndrome on our local bat population. As part of the project an estimation of the local bat numbers and if the population is increasing or declining.

Project objectives are twofold:

- 1) Estimate trends in local bat populations over a specific time frame and compare with our findings with other available estimates in the surrounding area and the State of MI and Province of Ontario.
- 2) Educate our Les Cheneaux community about the benefits of a healthy bat population to our overall ecology and the adverse impacts of the fungus-borne disease White Nose Syndrome (WNS).

Ideally, a project of this type involves capturing and tagging individual animals. The resources and expertise for this type of study are beyond the current LCWC capabilities, however.

The current Bat Monitoring project will rely on the observations by volunteers stationed in specific locations throughout the area. Intended observation times will be scheduled for two nights of each of the months of May through September. Volunteers will be asked to watch the evening skies and report bat sightings and numbers observed. Areas with high reported activity will be further investigated using bat call species identification equipment. These areas will be monitored each year for a period of 3 to 5 years for changes in population density and species diversity. Findings will provide initial information concerning which species is surviving WNS in the Les Cheneaux area. Our data will also serve as a starting point for professional investigations involving flight patterns and species identification. These data will be compared with available like data for Michigan and/or the surrounding territory.

Volunteer observers are needed to sit back with a beverage of your choice and watch the evening sky for our natural, flying insect pest controllers. Invite a friend and watch a spectacular Les Cheneaux sunset. Requested observation days are one day week in the first and third week of each month from May through September. Observation times should be consistent around sunset, ideally 30 minutes before to 30 minutes after published sunset times for the days of observation. Observation sites are detailed on the attached map. Actual locations may be in the general vicinity of those sites listed as long as the monitored area is the same each time. Unsolicited observations are also welcome. Send all reports to:

LCIBats@gmail.com or call: 906-484-3031 (machine response).

There are nine species of bats found in Michigan. The Little Brown, Big Brown, Long Eared, Tri-colored, Evening, Hoary, Indiana, Silver Haired, and Red. The most common species in the Les Cheneaux area is the Little Brown.

Four of the nine species of bats, including the Little Brown hibernate in caves or abandoned mines. Some researchers estimate that more than 80% of Michigan bats winter in the abandoned mines of the Keweenaw Peninsular in the Western U.P. It is possible, however, that EUP bats might hibernate in the numerous local karst formations. Bats are social creatures in that they hibernate in large groups. It is this behavior that is causing the number of bats to decline drastically.



Little Brown Bat
Image courtesy of BatWorlds.com

By now, almost everyone has heard of White-nose syndrome. White-nose syndrome (WNS) is a disease affecting hibernating bats. Named for a white fungus that appears on the muzzle and other parts of bats, WNS is associated with extensive mortality of these animals in eastern and mid-western North America. First documented in New York in the winter of 2006-2007, WNS has spread rapidly across the eastern and midwestern United States and eastern Canada, and has been continued as far west as the state of Washington. Michigan bat species confirmed with WNS include: Big brown bat (*Eptesicus fuscus*), Indiana bat (*Myotis sodalis*), Little brown bat (*Myotis lucifugus*), Northern long-eared bat (*Myotis septentrionalis*), and the Tri-colored bat (*Perimyotis subflavus*).¹



Bats infected with WNS act strangely during cold winter months, including flying outside during the day and clustering near the entrances of caves and other hibernation areas. Coming out of hibernation during winter months stresses the bats and depletes their fat reserves. Bats have been found sick and dying in unprecedented numbers in and around caves and mines. WNS is estimated to have killed more than 6 million bats in the Northeast and Canada. In some sites, 90 to 100 percent of bats have died.¹

The true ecological consequences of large-scale population reductions currently under way among hibernating bats are not yet known. However, farmers might feel the impact. In temperate regions, bats are primary consumers of insects, and a recent economic analysis indicated that insect suppression services (ecosystem services) provided by bats to U.S. agriculture is valued between 4 to 50 billion dollars per year.² Add to this the human costs of insect born diseases such as West Nile, Zika, and encephalitis and the decline of ash and spruce forests caused by insects.

There are efforts underway to control WNS. Application of a naturally occurring bacterium inhibits the fungus that causes White-nose. Most recently, professor Maarten Vonhof of Western Michigan University is testing the effectiveness of a natural polymer chitosan in combination with hibernaculum chlorine dioxide treatment on bats in an abandoned mine in Ontonagon, Michigan.

Citations:

1. US Fish and Wildlife fact Sheet https://www.whitenosesyndrome.org/sites/default/files/resource/white-nose_fact_sheet_5-2016_2.pdf
2. USGS: https://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/