

# OHIO BATS

Lesson developed by: Sue Worstall, Summit County Master Gardener Volunteer

## ACTIVITY OVERVIEW:

A nature appreciation activity to use as a 1:1 cart activity or with small or large groups, which encourages participants to learn about bats in nature. Photos can be enlarged and copied, if wished. The below bat drawing can be enlarged and printed for coloring.

## QUESTIONS:

- ❖ Are bats large rodents or mammals? (A. mammals)
- ❖ What does nocturnal mean? (A. occurring or active at night)
- ❖ Have you ever seen a live bat? Did you see it during the day or night?

## BATS IN OHIO

There are over 1,390 species of bats worldwide with 45 species in the U.S. and 10 of these living in Ohio. Bats provide a number of ecological services from plant pollination and seed dispersal to pest control and contributions to the medical field.

Ohio bats are insectivores – meaning their diet consists solely of insects. They are the primary predators of night flying insects and because flight requires a substantial amount of energy, bats must consume large amounts of food. A single little brown bat, a common species in Ohio, can consume 50–100% of its body weight in insects – up to 2,000 insects - each night. Bats can travel miles in a single night to feed, helping protect our food crops and forests from insect pests, saving farmers and forest managers billions of dollars each year.



Source: <https://u.osu.edu/obwg/>



## Big Brown Bat

Source: Ohio Department of Natural Resources

While bats actually have very good eyesight, they use sound to find food and to avoid bumping into each other and other things while flying at night. They send out high-pitched squeaks and then listen for the echoes that bounce off nearby objects – this is called echolocation. Because they see in a different way, they fly higher, farther and faster than most nocturnal birds. They sleep by wrapping their wings around their bodies like a blanket.

Bats are the only mammal that can truly fly (although some other mammals “glide”). A bat’s wing is actually a modified hand—similar to ours.

## BAT BIOLOGY

Because flying insects are not active during the winter months, bats must either hibernate or migrate to survive the winter. Bats that remain in Ohio throughout the year gather in forests, caves and abandoned mines to hibernate. Hibernating bats survive on a very small amount of stored fat during the five- to six-month hibernation period. Hibernation begins in October.

Bats arouse from hibernation during March and migrate to their summer roosts in April. Pregnant females seek sheltered roosts for their young, called pups, in buildings, tree cavities, and tree foliage. In some species, females gather together prior to giving birth and form maternity colonies. Each bat gives birth to one to two pups in late May and early June. By mid-July, the pups are able to fly and begin hunting insects on their own. The females continue to nurse their pups until they are able to adequately feed themselves.



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Photo courtesy of Ohio Wildlife Center

## CHALLENGES TO BATS

- ❖ **White-nose syndrome (WNS)**: This condition, caused by a non-native, invasive fungus has impacted 6 of the 10 Ohio bat species. It is spread bat-to-bat and by movement of fungal spores, and has been found to have a 70 to 100% mortality rate. Bats infected with this fungus experience a physiological disruption that can eventually result in dehydration and starvation before spring emergence. Professionals generally agree that WNS is the greatest threat to cave- and mine-hibernating bat populations in eastern North America at this time. Some WNS-infected bats (but not all) are identifiable by the presence of white fungal growth on their muzzles, forearms, and wing membranes as they hibernate. Because bats reproduce only once yearly and have small litters, it will take a long time, if ever, for populations impacted with WNS to recover.
- ❖ **Habitat and bat safety issues**: Development and loss of forested areas have impacted bats, as has insecticide use. To address these issues and to reduce WNS, expert recommendations include leaving snags or girdling trees to create future bat roosts, avoiding applying pesticides around roosting sites, and creating small forest openings of less than five acres to provide a good balance between maintaining foraging and roosting habitat.
- ❖ **Seeing bats for the value they provide versus fear and dislike of them**: As noted, bats' insect-eating provides much benefit to farmers. They also assist in plant pollination. They are very clean animals, constantly grooming themselves like cats. Bats do not attack. They are afraid of humans and avoid people when they can. Finally, bats rarely carry rabies; less than 1% have been found to have this disease.

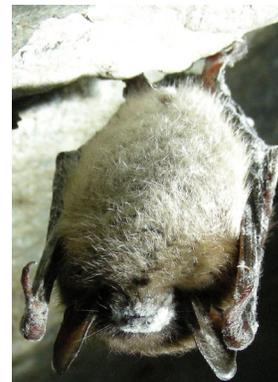
## RESOURCES

There are many great online resources about bats that can be used with individuals or groups:

- [batweek.org](http://batweek.org) Bat Week 2021 (Oct 24-31, 2021) – much fun, educational, and video resources and many activities
- <https://u.osu.edu/obwg/> Ohio Bat Working Group
- [batcon.org](http://batcon.org) Bat Conservation International, conservation and education information
- [https://www.si.edu/object/whataposs-causing-millions-north-american-bats-die:yt\\_pOA8y8VArpA](https://www.si.edu/object/whataposs-causing-millions-north-american-bats-die:yt_pOA8y8VArpA) Smithsonian Channel video about white-nose syndrome (2 mins)
- *Bats, Bats, Bats* – Youtube video with music and beautiful photos

### Contact Information:

If you have any questions about this activity, please email [mgsummitcounty@gmail.com](mailto:mgsummitcounty@gmail.com). We hope you benefitted from this activity. Please let us know if you utilized this with a quick email to the above address. Please send your name, facility name, number of participants involved in this activity, and your feedback for improvement so we can measure our impact and improve this product. Thank you!



### White-nose syndrome on bat

Source: United States Fish and Wildlife Service National Digital Library)