Bats of North Carolina

North Carolina Wildlife Profiles

Eastern small-footed bat (Photo by Katherine Caldwell)

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Bats represent one-quarter of all mammal species worldwide. Like us, they give birth to live young. Bats are relatively long-lived mammals and can survive 20 to 30 years in the wild. Of the 17 bat species that occur in North Carolina, three are listed as federally *Endangered* and one is listed as federally *Threatened*.

Bats are primarily nocturnal, though they also forage in the early evening and early morning hours. Although most bats have relatively good eyesight, they primarily use echolocation to navigate and locate prey. Their maneuverability is phenomenal—bats can avoid objects as small as a string in total darkness.

Bats mate in the spring or fall and usually produce one pup per year. Many species form maternity colonies in the summer to raise their young, while others are solitary roosters. Some bat species migrate south for the winter and others find local hibernation areas, called hibernacula, for the winter. Bats prefer caves or mines for hibernacula, though they have also been known to use buildings and bridges, and they usually return to the same site every year.

By educating the public, monitoring populations, and protecting bat habitat, the North Carolina Wildlife Resources Commission (NCWRC) is working to sustain bat populations in our state.

The Benefits of Bats

Bats are integral to ecosystems worldwide. Tropical bats disperse large amounts of seed and pollen, enabling plant reproduction and forest regrowth, and are especially important in the pollination of cocoa, mango, and the agave plant, which is used to produce tequila. North American bats have a major impact on controlling insect populations that are considered agricultural pests. They save the corn industry over $1 billion annually in pest control. A nursing female bat may consume almost her entire body weight in insects in one night. Recently a protein found in vampire bat saliva has been used to develop clot-busting medication to aid stroke victims.

Little brown bats (Photo by Katherine Caldwell)

While often thought of as scary and dangerous, bats are integral to ecosystems worldwide.

Tri-colored bat hibernating (Photo by Katherine Caldwell)

Echolocation

Bats are capable of producing high-frequency sound that they use as sonar. The sound they emit travels through the air until it bounces off of an object and returns to the bat as an echo. The bat calculates the distance to the object by processing the time required for the sound to return. It can also determine the size, shape, and texture of the object in its path.

Bats and Rabies

Despite misconceptions, rabies is not very common in bats. Less than 3% of bats tested in NC have the virus. However, it is important to remember that bats can become infected and use caution when you encounter one.

Monitoring Bat Populations

Many bat populations in the United States have declined in recent years. Pesticides, persecution, and human disturbance of hibernacula and maternity colonies may have contributed to this decline. Furthermore, an emergent fungal disease called white-nose syndrome (WNS) has killed more than 5.7 million bats since its discovery in New York in 2006. This disease spread to NC in 2011, and continues to spread to new states each winter. It is now found in 30 states.

To determine bat distribution and hibernation sites in North Carolina, track the spread of WNS, and estimate population trends for certain species, the NCWRC conducts monitoring across the state. Through a variety of methods (including mist netting, trapping, banding, acoustic recording, roost monitoring, and radio telemetry), NCWRC biologists, in cooperation with several partners, have surveyed and banded thousands of bats in North Carolina. All of this work helps to inform management.

Radio telemetry is one of several methods Wildlife Commission biologists use to monitor bat populations in the state. (Photo by Joey Weber)

Tri-colored bat with white-nose syndrome (Photo by Katherine Caldwell)

Protecting Bat Habitat

In 2002, the NCWRC purchased the mineral rights to and acquired a donated conservation easement at Cranberry Iron Mine in Avery County to protect the hibernating population of Virginia big-eared bats, tri-colored bats, little brown bats, big brown bats and northern long-eared bats. If bats are disturbed during hibernation (especially WNS-infected bats), they can expend their stored energy before spring and die of starvation. The NCWRC and U. S. Forest Service constructed steel gates at the mine entrances, which allow bats to freely move in and out of the mines, but prevent people from entering, disturbing the bats, and potentially spreading WNS. To further protect bat habitat, the NCWRC has also been working alongside lands trusts, N.C. State Parks, and the U.S. Fish and Wildlife Service to acquire land with critical habitats.

Educating the Public

Education is another important tool for bat conservation in North Carolina. By introducing people to bats and their benefits, and teaching them how to co-exist with bats, we can help sustain the bat populations in our state. North Carolina citizens can support bat populations by avoiding hibernation colonies and installing bat boxes on their property. Bat Conservation International's website has more information on bat boxes.

How You Can Help

1. Install bat boxes around your home.
2. Plant native plants that attract insects that bats eat.
3. Limit the use of insecticides and herbicides whenever possible.
4. Avoid bat hibernation areas and maternity colonies.
5. Join a conservation organization to remain updated on bat conservation efforts.
6. Educate yourself and others regarding the importance of bats and why they are beneficial.
7. Donate to the N.C. Nongame and Endangered Wildlife Fund.

Bat box (Photo by Katherine Caldwell)

Credits
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