

Bats of West Virginia



Craig Stihler

The Indiana bat is listed as federally endangered.

Bats and Rabies

All mammals can contract rabies, and bats are no exception. The incidence of rabies in bats has often been exaggerated. In fact, a person is 10 times more likely to be struck by lightning than to get rabies from a bat. In the past 40 years, only 10 people in West Virginia are suspected to have contracted rabies from bats. The best rule to follow is to never handle any wild animal, especially if it acts as if it may be ill.

Endangered Bats

Three species of bats found in West Virginia are listed as federally endangered by the U.S. Fish and Wildlife Service. These are the gray bat, Indiana bat and Virginia big-eared bat. West Virginia is actually outside the range of the gray bat, and only two individuals have ever been observed in the state. The state is on the periphery of the range of the Indiana bat, but significant numbers of this species hibernate in caves in West Virginia, including one cave which harbors nearly 13,000 Indiana bats each winter. Most of the Virginia big-eared bats in the world live in West Virginia, including the largest known concentration of hibernating individuals and the largest known maternity colony.

The major cause for population declines in both the Indiana bat and Virginia big-eared bat was human disturbance of these bats while they were in caves. Disturbance in winter causes the bats to wake up and exhaust their fat reserves. When disturbed in summer, females may panic and drop their young to the floor of the cave where they cannot be retrieved and often die. Gates and fences constructed at cave entrances to reduce disturbance in important bat caves have been effective, and the numbers of Indiana bats and Virginia big-eared bats in West Virginia caves are increasing.

Bat Houses

Bat houses have become popular in recent years. In some areas they have been quite successful. Bat houses are particularly useful in providing a new home to a colony of bats displaced from an attic.

If you would like to build a bat house, plans are available by writing: Bat House Plans, WVDNR, PO Box 67, Elkins, WV 26241 or call (304)637-0245, or go online at www.wvdnr.com

West Virginia Bats

Little brown bat
Northern long-eared bat
Indiana bat
Gray bat
Small-footed bat
Silver-haired bat
Eastern pipistrelle
Big brown bat
Red bat
Seminole bat
Hoary bat
Evening bat
Virginia big-eared bat
Rafinesque's big-eared bat



Bat houses are easy to make.

Bats in the house?

Even people who appreciate bats do not always appreciate them establishing residency in their homes. Little brown bats and big brown bats are the most common bat species found in buildings in West Virginia. The only sure and safe way to rid a house of bats is to physically block the openings they are using. Be sure to block the opening when the bats are not present. During the summer, the bats may have young in the roost, so it is best to block the openings before the bats arrive in the spring or later in the season after the bats have departed for the winter. Putting up a bat house will provide the bats a new home once they have been excluded.

If a bat happens to stray into your house, the easiest way to get it back outside is to open a window or door and let the animal find its way out. One can also cover a bat on the floor or a wall with a heavy towel and carry it outside to be released. For more information, check the DNR Web site: www.wvdnr.gov and look for *Nuisance Wildlife*.



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Little brown bats are commonly found in homes. (Note the wing band used to tag this individual).

Cover photo of Virginia big-eared bat by Jeff Hajenga.

Wildlife Diversity Program



Wildlife Resources

West Virginia Division of Natural Resources

P.O. Box 67
Elkins, WV 26241
(304) 637-0245
Fax: (304) 637-0250

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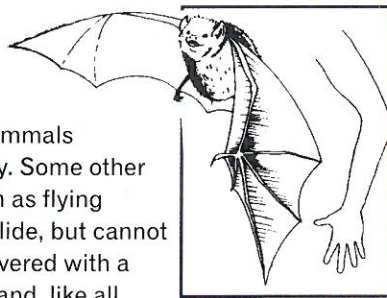


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eastern pipistrelle with moisture droplets on its fur.

What Are Bats?

Bats are not rodents with wings. Rather, bats comprise a separate group of mammals that are very specialized for their unique life styles. The scientific name for the group is "Chiroptera" meaning "hand-wing," and indeed, their wings are formed by elongated fingers with membranes of skin and muscle fibers stretched between them. Bats are the only mammals that can truly fly. Some other mammals, such as flying squirrels, can glide, but cannot fly. Bats are covered with a soft coat of fur and, like all mammals, nurse their young with milk. Although bats are highly specialized, they belong to a very ancient group. Fossil bats over 50 million years old have been discovered.



Christine Butterworth

Diversity of Bats

There are more than 1,000 species of bats in the world. In fact, between a quarter and a fifth of all mammal species are bats. Although all bats share a similar body plan, they are quite diverse in other ways. Across the globe, bats feed on an amazing variety of foods including fruit, pollen, nectar, insects, frogs, fish, small mammals, and even blood (there are three species of vampire bats). Bats range in size from the tiny Kittie's hog-nosed bat weighing less than a dime to flying foxes with wingspans of over 6 feet. Because bats are basically a tropical group, the diversity seen in North America is limited. About 40 species of bats occur in the United States, and 14 species have been seen in West Virginia. The largest bat found in West Virginia, the tree-dwelling hoary bat, has a wingspan of nearly 16 inches. All bats found in West Virginia feed exclusively on insects.

Bats are Beneficial

Bats are a natural form of insect control. Studies have shown that bats can catch and consume large quantities of insects. For example, a little brown bat can catch 500 mosquitoes per hour. Large colonies of bats, such as the colonies of Mexican free-tailed bats in the American Southwest which may contain more than a million individuals, devour tons of insects each night, including species that are pests to agricultural crops. In sub-tropical and tropical areas, bats are pollinators of many important crop plants and play a large role in the dispersal of seeds and the regeneration of forests. Many of the large cacti in the American deserts, such as the saguaro, are pollinated by bats.



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The hoary bat is the state's largest bat and may migrate south before winter.



From left: DNR biologists monitor caves by using a night scope. This photo was taken through a second night scope. Some caves are gated to protect colonies. Tiny transmitters are put on the backs of bats to track movements and locate roosts.



Bats and Caves

Many bats in West Virginia use caves during at least part of the year. Because these bats feed only on insects, there is no food available to them during the coldest months. Like bears and other hibernating mammals, many bats put on fat during the autumn and live off of these reserves until warm weather returns. Caves offer ideal conditions for hibernation because they maintain fairly stable temperatures that remain cold, but above freezing, throughout the winter.

While most bats leave the caves in the spring to spend the summer in trees, old buildings or other roost sites, Virginia big-eared bats raise their young in caves. Female Virginia big-eared bats form "maternity" colonies in a few caves that offer suitable conditions for rearing their young. To "see" in the total darkness found in caves, bats use an echolocation system. They emit ultrasonic (above the range of human ears) clicks and listen for the echoes. The quicker the echo returns, the closer the object that reflected the sound. The echoes provide the bats with "images" of their surroundings. This system is so sensitive that objects as thin as monofilament fishing line can be detected.

Although many bats retreat to caves during the winter, one group of bats known as the "tree bats" rarely visits caves. Red bats and the hoary bats occur in West Virginia in the summer where they roost in trees during the day. Later in the year most of these bats migrate south for the winter; a few red bats, however, do appear to winter in West Virginia. Silver-haired bats also migrate between their summer homes and warmer wintering areas; these bats migrate through West Virginia in spring and fall, but few remain as summer residents.

Reproduction

Unlike most small mammals, such as mice, which may have several litters of young each year, most bats produce only a single young, known as a "pup," each summer. A few species routinely produce more than one young; the eastern pipistrelle often rears twins and red bats may have 4 or even 5 pups. Young bats are born blind and hairless, and may weigh almost a quarter of their mother's weight. The females nurse their young, which grow rapidly. Most young bats begin to fly by the time they are one month old. Although they reproduce slowly, bats are long-lived and can produce young for many years. Bats can live to be over 30 years old.