

# BATS AND YOU



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**Illinois**  
**Department of**  
**Natural Resources**



**BATS NEED HELP.** These animals have been feared, maligned and misunderstood for centuries, and their role in nature is too little appreciated. Bats help humans by controlling insects. In the field of scientific research, bats have been used in the development of vaccines and navigational aids for the blind, and have contributed to studies on aging and space biology.

## THE FEAR OF BATS

Most Illinoisans who fear bats do so unnecessarily. Much of the panic associated with bats is based on myths and old wives tales that simply aren't true. The greatest fear is that of contracting rabies. Medical statistics show that only a handful of persons have ever contracted rabies from bats in the U.S.; more people die **annually** from dog attacks, bee stings, power mower accidents or even from being struck by lightning. Only a small percentage of bats have rabies; the incidence of rabies is no greater than for some other mammals.

Healthy bats and even the few that become rabid do not attack people although many persons believe they will. And bats do not get tangled in your hair. Actually bats are passive. Most bat bites occur from handling grounded bats and are the "defensive bites" of the animal.

Some people believe that bats are filthy and likely to transmit diseases to humans. However, like most mammals, bats spend a considerable amount of time grooming to keep their fur clean. Bats have few parasites and those that are found on bats do not normally infect humans. The only other health concern, histoplasmosis, is a fungal disease associated with bat or, more commonly, bird droppings. Most people exposed to the droppings do not produce any symptoms and others develop only a flu-like illness.

The fear of bats has been perpetuated and accentuated by sensational journalism and Hollywood vampire stories. Actually, human encounters with bats are infrequent. By learning true information about the life history of Illinois' bats, those who fear bats may begin to appreciate them as a unique part of the natural world.

## BAT FACTS

Bats are mammals — not birds — and belong to a specialized group that includes nearly 1,000 species worldwide. Illinois' bat species are only about two inches long (the wingspan may extend to ten or twelve inches). Most mammals this size do not live over a year or two in the wild; however, bats may live up to 20 or 25 years.

Bats are the only mammals that fly. They have eyes and can see even though they are active only at night. Bats have developed a sophisticated "sonar" or echolocation system which helps them avoid obstacles in their paths and find food in total darkness. A series of ultrasonic sounds emitted by the bats creates echoes which are picked up by their sensitive ears. Illinois' bats feed exclusively on insects. A single bat may consume 3,000 insects in one night including corn borer and cutworm moths, and mosquitoes. Because of their feeding habits, bats are one of our foremost allies in controlling night and flying insects.



*A typical cluster of hibernating little brown bats*

Like other mammals, bats give birth to young which nurse at the mother's breast. Most females produce only one offspring each year, usually during May or June. No nest is built. Some species form groups of females or maternity colonies at summer roosts. A typical summer roost for these females and their young could be located beneath loose tree bark, or in hollow trees, tree foliage or attics. At birth, a young bat instinctively clings to its mother. When the mother feeds in the evening, the young is left at the roost site. After three weeks, the young can fly and feed on its own.

By winter, bats must be ready to migrate south to find an abundant insect supply or hibernate in caves, buildings or hollow trees. Bats use the same hibernacula (hibernating places) and summer roosts year after year, but how they find their way to the same place every year remains a mystery.

## ILLINOIS' BATS

Twelve species of bats spend at least part of their lives in Illinois; two are on the federal and state endangered species lists. While they may be found throughout the state, the Illinois and Mississippi River Basins and the cave regions of southern Illinois probably have the highest bat populations because of the abundance of bat habitat.

The Indiana bat, an endangered species, hibernates in relatively few caves in Illinois in the winter. These bats form large tight clusters on cave ceilings from September through April. During the summer months, Indiana bats may occur throughout Illinois where they roost in small colonies under loose tree bark.

The gray bat, also an endangered species, is only known from a few sites in Illinois and occurs here only in the summer. Caves provide both summer and winter homes for this species. Gray bats form large colonies that produce huge piles of guano (droppings). Guano was mined from caves and used in the production of gunpowder during the War of 1812. The nitrate-rich guano has also been used as fertilizer.



*This red bat, like all other bats, hangs upside-down from its roost.*

Photo Courtesy Illinois State Museum

Pipistrels are the smallest of Illinois' bats. They do not form clusters but rather hang singly in most every cave in the state during winter hibernation.

Both big brown bats and little brown bats are common throughout Illinois. Caves provide their winter homes whereas hot attics or hollow trees are summer retreats. These bats form summer colonies which may number from a dozen to hundreds. The big brown bat is two to three times larger than its smaller relative.

The red bat and hoary bat are found throughout Illinois. They roost in the foliage of trees in the summer where they are rarely detected. However, they are often observed feeding at night around street lights in town. The hoary bat, less common than the red bat, is the largest bat in Illinois.

Other Illinois bat species include the Keen's bat, southeastern bat, evening bat, silver-haired bat and southeastern big-eared bat. These species are generally of limited distribution or relatively uncommon in the state.



## BATS NEED FRIENDS

Illinois' bats need the support and understanding of the public in order to survive. Many bats are needlessly killed by misinformed people each year. Providing the facts about these unique animals to those people who fear and kill any bat they see may help alleviate the problem. But bats are also indirectly and unknowingly killed when their wintering caves are explored by cavers. Disturbances during hibernation (Sept.-Apr.) cause bats to arouse, using up precious fat reserves. Pesticide use has been responsible for declines in bat populations, both directly and indirectly. Bats are extremely sensitive to some pesticides; the chemicals also reduce their insect food supply.

Proper habitat is also needed to ensure bat survival. In general, mature forested areas and undisturbed caves are required by most species during some part of the year. Ponds, streams, lakes and rivers with an abundant supply of insects are also important habitat components. Maintenance of these habitats will benefit our bat populations.

The Department of Natural Resources provides interested persons with plans for building artificial bat boxes. Warning and interpretive signs are being erected at important bat caves. Department personnel are inventorying and monitoring bat populations statewide.

Not long ago the idea of protecting bat populations and enhancing their habitats was unappealing. Today, an enlightened public is beginning to realize the value of these unique animals and their role in the natural scheme of things. Bats are an excellent barometer of the condition of our environment, and some people enjoy watching the aerodynamic skill of these fascinating animals as they help control night-flying insects. Others have found bats to be fascinating animals to study. Learning the facts about the life history and habits of bats will lead to a greater awareness and appreciation of these specialized creatures of the night.

## BATS IN YOUR BELFRY?

Occasionally, bats take up residence in an attic, a church, or some other structure erected by humans. Some people learn to live with the bats. Nevertheless, large colonies may create a situation which may be intolerable to the landowner. In these few cases, the only safe, permanent solution is to seal all the bat entry sites; a procedure called batproofing. Killing the bats is ineffective and the use of poisons can be dangerous to humans and actually increase the number of human encounters with bats.

To rid a house of a summer bat colony, we recommend that all openings be plugged or covered after the bats have left for the evening or, preferably, in November after they have left for the season. If the openings are closed during the summer, young bats left behind would die and rot, creating a greater nuisance than the colony itself. To find the openings, which may be quite small, simply watch where the bats emerge from the outside of the house at sunset.

If an occasional bat accidentally enters the living space, merely opening the door in the evening will provide the bat with an exit route. Additional information on batproofing is available by contacting your District Natural Heritage Biologist or the Springfield office of the Division of Natural Heritage.

## BAT CONSERVATION

Few Illinoisans realize that all bats are protected under the Wildlife Code. Two species, the Indiana bat and gray bat, are offered the additional protection of federal and state endangered species laws. These laws recognize the biological value of these species and their important role in nature's scheme.

Legal protection and the support and understanding of an enlightened public will help insure that our Illinois bat fauna is preserved for future generations of Illinoisans. Support our bat conservation efforts by becoming a "friend of the bats".

## BATS OF ILLINOIS



Little Brown Bat  
*Myotis lucifugus*



Indiana Bat  
*Myotis sodalis*



Southeastern Bat  
*Myotis austroriparius*



Keen's Bat  
*Myotis keenii*



Gray Bat  
*Myotis grisescens*



Big Brown Bat  
*Eptesicus fuscus*



Eastern Pipistrelle  
*Pipistrellus subflavus*



Evening Bat  
*Nycticeius humeralis*



Southeastern Big-eared Bat  
*Plecotus rafinesquii*



Red Bat  
*Lasiurus borealis*



Silver-haired Bat  
*Lasionycteris noctivagans*



Hoary Bat  
*Lasiurus cinereus*

Photo Courtesy Illinois State Museum

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