

# PENNSYLVANIA BATS and RABIES

## HIBERNATING SPECIES – CAVE BATS

Big brown bat (*Eptesicus fuscus*)  
Little brown bat (*Myotis lucifugus*)  
Northern long-eared bat (*Myotis septentrionalis*)  
Small-footed bat (*Myotis leibii*)  
Indiana bat (*Myotis sodalis*)  
Eastern pipistrelle (*Pipistrellus subflavus*)

## MIGRATING SPECIES – TREE BATS

Eastern red bat (*Lasiurus borealis*)  
Hoary bat (*Lasiurus cinereus*)  
Silver-haired bat (*Lasionycteris noctivagans*)

Nine species of bats are commonly found in Pennsylvania. Six species are year-round Pennsylvania residents and hibernate during the winter months, while three other species migrate south during the colder months each year. Other bats, such as the evening bat (*Nycticeius humeralis*) and the seminoe bat (*Lasiurus seminolus*), have been reported in the state but are not considered residents.

The first bat that tested positive for rabies in Pennsylvania was a hoary bat reported in 1953, and rabid bats have been reported every year in the state since 1961. Because some of these positive bats have been found in private homes, cats and dogs are required by Pennsylvania law to receive rabies vaccinations even if they never go outdoors. Rabies should be considered as a possibility in any downed bat, even those with obvious injuries. There is no reliable test for rabies that can be performed on a live bat, and the use of quarantine may not be effective because there is limited information on the expected incubation period for rabies in bats.

All Pennsylvania bats are susceptible to rabies infection, and seven of the nine species found in the state have been reported with the disease. Small-footed bats and Indiana bats have never been reported positive, but these two species are seldom encountered and submitted for testing. The rabies epizootic currently involving Pennsylvania terrestrial mammals such as raccoons and skunks has had little effect on bat rabies. Only 4.9% of over 6700 bats examined at PVL since 1975 have been reported positive. This figure does not represent a random population survey and the actual incidence of rabies in bats is undoubtedly much lower than this figure would indicate. Migratory species and pipistrelles generally have the highest incidence of rabies, while little brown bats in the genus *myotis* have the lowest incidence of the disease - less than 2%. Typically, about three quarters of all bats submitted for testing in Pennsylvania are big brown bats, of which just over 5% have been reported positive.

There have been at least 36 documented human deaths from rabies infections acquired in the U.S. from 1990 through 2004. Monoclonal antibody analysis and genetic sequencing indicate that one death occurred from an indigenous skunk strain of rabies, and one death occurred in Virginia in 2003 from the raccoon strain of the virus. The remaining 34 deaths were associated with bat variants of the rabies virus. In May, 2004 an organ donor died of bat-associated rabies and four persons who received organs and tissue from this donor subsequently became infected and died from rabies in May and June. However, in most of the remaining cases no exposure to bats could be documented, and it remains unclear why a disproportionate number of recent human deaths from rabies in the U.S. are associated with bat strains of the virus.

A total of 173 human deaths from rabies have been documented in Pennsylvania from 1905 (the oldest available record) to the present. All of these cases occurred prior to 1949, with the exception of a single human death from rabies in Lycoming County in 1984 from a bat variant of the rabies virus.

All Pennsylvania bats are strictly insect eaters, and are extremely beneficial from an insect control perspective. Bats are the only flying mammal and are unique and interesting members of the Commonwealth's local fauna. The incidence of rabies in these animals does not indicate the need for their destruction; it simply means that interaction with bats is best kept to a minimum, and if bats must be handled, it should be done with caution. If an exposure to a bat should occur, the bat should be captured if possible and tested for rabies.

For further information regarding bats and rabies, contact Thomas Wampler by telephone weekdays from 8 to 4, or by FAX or e-mail anytime. Another reliable source of information regarding bats in general is the Bat Conservation International website at [www.batcon.org](http://www.batcon.org).

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