



**Rhode Island Department of Health & Department of Environmental Management**



## **BATS**

*What you should know.*

### **Life History**

The most common Northeastern bat species in Rhode Island are Little Brown, Big Brown, Red, and Eastern Pipistrelle. Bats are furred, warm-blooded mammals with body lengths of 3 to 6 inches and wingspans ranging from 8 to 16 inches. The bones in a bat's wing are similar to those in human arms and hands. The fingers are extended and connected by leathery, elastic skin that grows from the sides of a bat's body. Their thumbs are free from the wing's membrane and have claws for grasping. Bats have good eyesight and rely on vision for long-distance orientation. They rely on their hearing for night flying. Bats have a highly sophisticated adaptation called echolocation. This enables them to use their large, well developed ears to navigate and catch prey in total darkness. A bat's echolocation system makes use of ultrasonic sound pulses and echoes to locate objects. Bats open their mouths in flight and emit a series of ultrasonic sound pulses. These pulses bounce off nearby objects such as bushes, fences, branches and insects, then return as echoes to the bat's ears. Using the information gathered from these echoes, a bat can maneuver to capture an insect or avoid flying into an object.

Bats live in a variety of habitats, including wetlands, fields, forests, cities, suburbs, and agricultural areas. They usually feed in areas where insects swarm, such as over water and agricultural fields, in forest clearings, along forest edges, and around street lights.

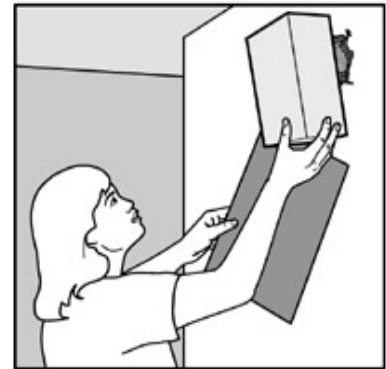
Rhode Island's bats are insect eaters. Bats are mostly nocturnal and almost always feed "on the wing". Bats use their wings, the skin around their tails, and their mouths to scoop small insects out of the air. A bat can consume nearly 50 percent of its body weight in insects in a single night. This can be very beneficial to humans as bats are the only major predator of night flying insects. Mosquitoes and similar "people" pests are eliminated much more efficiently by bats than by birds or expensive bug zappers.

Bats have one of the slowest reproductive rates for animals their size. Most northeastern bats have just one or two pups per year, and many females do not breed until their second year. This low reproductive rate is partially offset by their long life span. On average, bats live approximately four to six years.

## Rabies

Rabies is a viral infection of mammals that attacks the central nervous system. It is a deadly disease most often seen among wild animals such as raccoons, skunks, foxes and bats. Bats rank third in number of rabies cases in the United States, behind raccoons and skunks.

The rabies virus is found in the saliva of an infected bat. The virus can be transmitted when a rabid bat bites or scratches another animal or person. The virus may also be transmitted if the infected bat's saliva gets into an open wound, or comes in contact with the mucous membranes of the eyes, nose or mouth. Since bat bite marks can be very small and heal in a matter of hours, even exposure by proximity without a clear bite is considered high risk. Moreover the majority of human cases of rabies are associated with bat strains of virus and not other strains, implying that bat exposures are high risk for transmission to humans.



Bat rabies has always occurred at low levels within bat populations and researchers estimate that less than 1 % of all bats are rabid. Most bats are healthy and are beneficial in controlling insect pests. However, more of the bats submitted to the Health Department Laboratory for rabies testing were positive with the rates between 5-15 percent. It is unclear what the reason for this is. In addition, a high rate of rabies in bats, submitted from rehabilitators, shows that the rehabilitation of sick bats is unsafe.

There is no sure way to tell if a bat is rabid without having it tested at a laboratory. There are some signs of abnormal behavior that may indicate a bat is rabid. This would include outdoor activity during daylight hours, a bat found flapping on the ground and unable to fly, or a bat that bites a person or animal. A rabid bat will usually die within a few days after showing signs of the disease. It is important to note that not all rabid bats show abnormal behavior, but those that do are more likely to have rabies. Tests performed on the bat's brain will confirm rabies. If one rabid bat is found in a colony, it does not mean the entire colony is infected. It is also known that cold temperature and hibernation slows down the virus so the bats may be incubating the virus over a year.

As mentioned, since 1980, more people in U.S. have been infected with a bat rabies strain than any other strain of rabies. In Rhode Island, there have been several positive cases of rabies in bats each year, though no human deaths. The last case of human rabies in RI was 1949 and that was a canine strain.

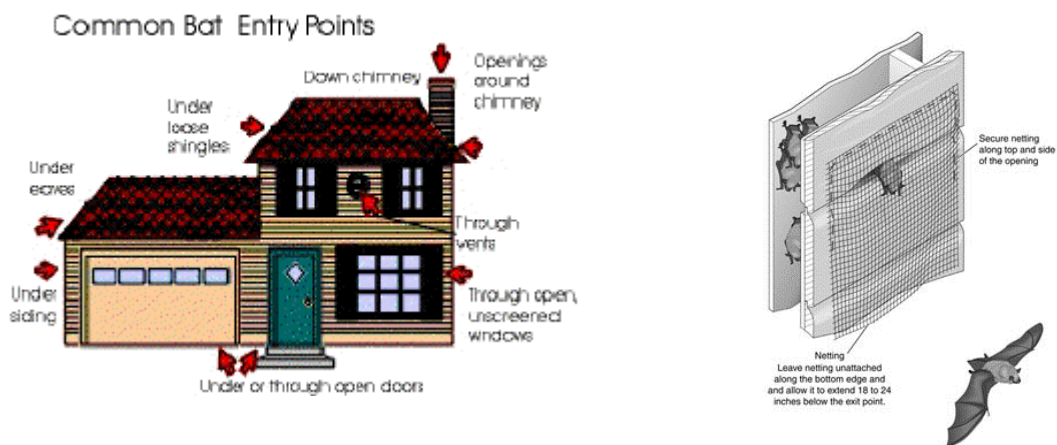
Minimize your risk to exposure of rabies by **avoiding** the direct handling of bats. If you must handle a grounded bat, wear leather gloves and scoop the bat into a coffee can or some other container. By doing this, you make it virtually impossible for the bat to bite you. If you are bitten by a bat, immediately wash the bite with soap and water and call the **Department of Health at (401)222-2577**. If the suspect bat is captured, it should be submitted for testing. This may help in avoiding having to undergo the rabies vaccine series. **If a bat is discovered in your bedroom, where you have been sleeping, or you or anyone you know reports having been very close to a bat, contact the Department of Health at 222-2577.** They will evaluate your need for vaccine treatment. If the bat is available for testing, it can be tested at the Health Department and vaccine treatment decisions will be guided by the results.

If you think your pet or domestic animal has been bitten or come in contact with a bat, you must contact your veterinarian, an Animal Control Officer, and the health department for

assistance in testing the bat for rabies. Remember to keep vaccinations current for cats, dogs and other animals, as required by law. If the pet is not up to date with the rabies vaccination, you may be fined \$200 and the animal will have to be quarantined.

## Bat-Proofing

Using poisons to control bats in buildings is not an environmentally sound, humane, or permanent solution to the problem. Certain chemicals or pesticides can create a risk of long-term toxic exposure to humans and pets. Chemicals or pesticides can also cause sick or dying bats to be grounded in the community, further increasing the chance of contact with people and domestic animals. Bats seen hunting on summer evenings or roosting in unoccupied buildings should be observed from a distance and not disturbed. To “bat proof” your home, carefully examine your home for holes that might allow bats entry into your living quarters. Any openings larger than a quarter-inch by a half-inch should be caulked. Use window screens, chimney caps, and draft-guards beneath doors to attics, fill electrical and plumbing holes with steel wool or caulking, and ensure that all doors to the outside close tightly. Keep in mind that some bats can pass through crevices as thin as a pencil. Additional “bat-proofing” can prevent bats from roosting in attics or buildings by covering outside entry points. Observe where the bats exit at dusk and install a one-way door. One-way doors are pieces of mesh or screening placed over a



bat entrance to form a long sleeve or tent. This way the bats can exit your house at dusk, but will not be able to re-enter at dawn. Before bat proofing, make sure there are no bats in the roost.

**The best time to bat proof is late fall through winter when bats have migrated, or are hibernating in caves. Bat proofing should not be done from June through mid-August as it may trap flightless young bats inside the roost. When bat proofing before June or after Mid-**

August, all openings except one or two major exits may be closed in advance, and the last opening sealed while the animals are away.

## **Bats in Homes and Buildings**

Individual bats occasionally enter houses, most often during summer evenings in mid-July and August. These wayward bats are usually pups that are just beginning to fly. Fortunately, these incidents can be dealt with quite easily. A bat flying in the house will usually circle a room several times in search of an exit. The best method for getting a bat out of the house is to allow it to find its own way out. Chasing or swatting at the bat will cause it to panic and fly erratically around the room, which needlessly prolongs the incident. If you are certain that no person or pet has had direct contact with the bat, it can be released outdoors, away from populated areas, preferably after dark. To remove a bat from a living area, try to confine it in one room, open windows, turn off the lights and allow the bat to leave on its own.

For further information on bats or rabies:

Bat Conservation International, Inc., P.O. Box 162603, Austin, Texas 78716  
[www.batcon.org](http://www.batcon.org)

RI Department of Health, 3 Capitol Hill, Providence, RI 02908 (401) 222-2577  
[www.health.ri.gov/topics/rabies.php](http://www.health.ri.gov/topics/rabies.php)

Centers for Disease Control and Prevention, National Center for Infectious Diseases  
Rabies Section MS G-33, 1600 Clifton Rd., Atlanta, Georgia 30333  
[www.cdc.gov/ncidod/dvrd/rabies](http://www.cdc.gov/ncidod/dvrd/rabies)

RI Department of Environmental Management's Division of Fish & Wildlife Field Headquarters,  
277 Great Neck Road, W. Kingston, RI 02892 (401) 789-0281  
[www.dem.ri.gov](http://www.dem.ri.gov)

\*\*\*\*\*

*The Division of Fish and Wildlife would like to thank the Connecticut Department of Public Health for much information in this handout.*

*It is the policy of the Rhode Island Department of Environmental Management to offer its services, and accommodations to all orderly persons, and, as required, to all properly licensed persons, without regard to race religion, color, national origin, ancestry, sex, age, or handicap. If you believe that you have been discriminated against in any program, activity, facility, or if you desire further information, please write to the Office for Equal Opportunity, U.S. Department of the Interior, Office of the Secretary, Washington, D.C. 20240*