Texas Cooperative EXTENSION
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Controlling BATS

Throughout history, bats have aroused the curiosity and interest of humans. Their ability to fly, their secretiveness, and their nocturnal habits undoubtedly have contributed to bat folklore, superstition and fear.

Most bats found in Texas live in caves and trees. Many are found roosting under bridges, in buildings or in other manmade structures. Roosts are usually dark, secluded areas where the bats spend the day sleeping. Bats normally leave the roost to feed just after sunset, and feed off and on throughout the night. Most bats return to the roost just before daylight.

The most common bat found in urban areas in Texas is the Mexican free-tailed bat (*Tadarida brasiliensis*). Although they occur in most parts of the state, Mexican free-tailed bats are more heavily concentrated in the southern half of the state. Mexican free-tailed bats form the largest colonies of any mammal. Some Texas cave colonies contain as many as 20 million individuals, which collectively can consume more than 100,000 pounds of insects nightly. Most Mexican free-tailed bats are migratory. They spend the winter months in Mexico and Central and South America, and return to Texas in February or March.

Although bats can see, they fly by means of an echo location system. By emitting high frequency sound waves, inaudible to humans and similar to sonar, flying bats are able to avoid obstacles and capture insects. Bats also emit audible sounds that may be used for communication.

Importance

Almost all bats found in Texas are beneficial and of some economic importance. Some bats are insectivorous and may consume up to one-half their body weight in insects each night. Some bats also are responsible for pollinating trees and cacti. Bat guano (droppings) is rich in nitrogen and at one time was commercially mined in the southwest. It is still mined in parts of Mexico, but the importance of bat guano has declined with the development of inorganic fertilizers.

Biology and Reproduction

Mexican free-tailed bat

Total length: 3 1/2 inches.

Wingspan: 11 to 13 inches.

Color: Brownish black above, grayish brown below.

Tail: Lower half of tail is free of connecting membrane, "free-tailed."

Gestation period: 77 to 86 days.

Litter size: One.

Litter numbers: One per year usually born in late spring or early summer.

Weaning: 6 weeks.

Life span: 10 years.

Damage

In urban areas, bats may become a nuisance because of their squeaking, scratching and crawling in attics, walls, chimneys or other structures. Their droppings and urine create an objectionable odor and, in some cases, can present a health threat. In addition, bats also can carry rabies. Although the incidence of rabies is low compared to the total population, the disease can be transmitted very quickly within a colony.

Bat bites should always be considered as potential rabies exposures and treated accordingly. Most cases of bat bites occur when people or pets pick up sick or dying bats that have fallen to the ground. Normally, bats are not aggressive and rarely attack people.

Control Methods

Before an attempt is made to control bats, it is essential to verify that bats are actually the cause of the nuisance. Twittering and rustling sounds in the chimney may be caused by chimney swifts. Scratching or thumping sounds in the attic or walls could indicate the presence of rats, squirrels, raccoons or other animals.

Exclusion

The best way to discourage bats from roosting in houses or other buildings is to close all openings by which they are likely to enter the structure. Bats may enter buildings through unprotected louvers or vents, broken windows, eaves, loose flashing and other places. Since bats can crawl through openings as narrow as 3/8 inch, careful inspection is necessary in order to locate all possible entrances.

Bats should be out of the building before batproofing work begins. The best time for batproofing is in the fall after the bats have left for the winter. If this is not possible, the entrances can be sealed at night after the bats have left the roost to feed. Most bats will leave the roost within an hour after sunset.

Birdnetting can be an effective method of excluding bats from buildings. The mesh size of the birdnetting should be no larger than 1/2-inch square. A strip of netting at least 2 feet wide, hung 1 to 4 inches in front of bat exit holes, and extending at least 2 feet below the lowest exit point, will allow the bats to emerge but keep them from finding their way back (see Fig. 1). Waterproof duct tape, staples, or wooden lath strips are used to attach the netting to metal, slate, wood, brick, asphalt shingle, or other surfaces. The netting acts as a simple one-way excluder until repairs can make the exclusion permanent.

Larger openings can be covered with sheet metal or 1/4-inch hardware cloth. Smaller openings and cracks can be sealed with caulking, metal flashing, weather stripping, steel wool, insulation or other suitable material. Unlike rodents, bats will not gnaw their way through

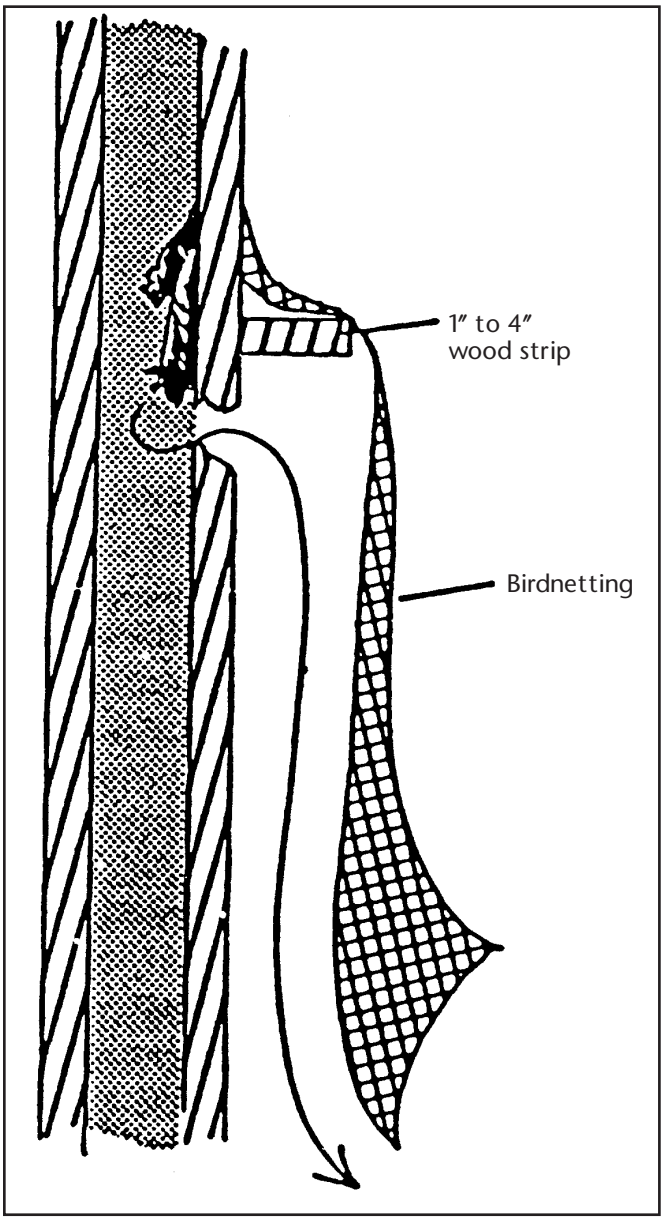

Figure 1. Birdnetting will allow the bats to emerge but keep them from finding their way back.

wood or building materials and are easily deterred once the openings are sealed. If any entrances are overlooked, the bats will soon find them, so it may be necessary to observe the building closely for several evenings to make sure all openings have been sealed.

Repellents

Where bat-proofing is not possible, repellents can be used to discourage bats and cause them to leave. At present, naphthalene is the only chemical registered as a repellent for bats. Naphthalene crystals or flakes can be placed in areas where bats are roosting. The disadvantage of using naphthalene is that it is only effective for a limited time. Once the odor dissipates, the bats may return. As with the use of any chemical, follow label instructions.

Illumination can also be an effective repellent. Since bats prefer dark, secluded areas for roosting, floodlights strung throughout the attic or near the roosting site may cause them to leave. Illumination is cleaner and safer for both humans and bats than chemical repellents are, but in some situations, the use of lights is difficult and costly.

It is believed that high frequency sound waves may deter bats, perhaps by interfering with their ability to navigate when flying. Several ultrasonic devices are available commercially, but their effectiveness is questionable.

Trapping

Although exclusion is the preferred solution to bat problems, bats may be trapped alive before bat-proofing work is done. A variety of traps, tunnel nets or plastic cylinders can be used. These are usually placed over the building entrance the bats are using. The bats are captured when they try to leave the roost during the night (see Fig. 2).

Toxicants

Currently there are no toxicants registered for bat control.

Safety Considerations

Frequently, one or two bats may be found in a house. They sometimes enter through the chimney, especially if the damper is left open. The simplest method of removing them is to open windows and outside doors. If they refuse to leave, they can be captured in a net, small box, can, or heavily gloved hand and then released outside. Avoid touching bats with bare hands. Although not usually aggressive, they will bite if handled improperly.

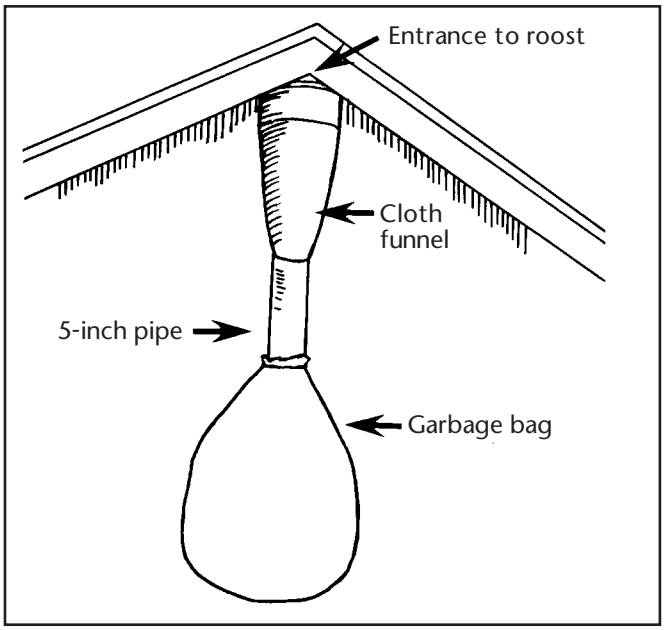

Figure 2. An effective bat trap can be made easily from available materials.

Restrictions

Many species of bats are found in Texas and some are protected by state law. Before conducting any type of bat control or relocating any bats which have been captured, contact local representatives of the Texas Parks and Wildlife Department.

For additional information contact the nearest office of Texas Cooperative Extension–Wildlife Services.

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Wildlife Services is a program of Texas Cooperative Extension cooperating with the United States Department of Agriculture—Animal and Plant Health Inspection Service–Wildlife Services.

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