



Effective Control of Bats



April 1997

Reformatted April 1999

Bats can become a nuisance when they invade dwelling structures. Their presence, ectoparasites, and odours from fecal matter and urine, and are all of concern.



Nevertheless, bats represent important members of the wildlife community and should be valued for the role they play as predators of insects. A single brown bat can easily capture 600 mosquitoes in an hour while a colony of 500 bats can eat a million insects nightly.

Biology

Bats, the only mammals capable of sustained flight, belong to the order Chiroptera, which means "hand-wing". Out of the 900 bat species known in the world, about 40 species, mostly insectivorous, are found in Canada and the United States.

While some species can be larger, bats are usually not much bigger than a house mouse. The wingspan of the two most common Canadian species, the little brown bat and the big brown bat, ranges from 8 to 14 inches. Bats will mate in fall or winter and the pups are usually weaned in July or August. A few bat species will migrate to the south when cold weather approaches while other species will just move to caves or mines where the temperature does not go below the freezing point.

In some cases, the big brown bat will even roost in buildings throughout the winter if conditions are favourable, e.g. high humidity level and temperature above the freezing point. Bats are loyal to their birthplaces, often returning to the same roost site year after year. A bat can live more than 10 years.

Bats emit high-frequency sounds inaudible to humans. These sounds bounce off objects in their paths to enable them to avoid obstacles and detect flying insects. Sometimes bats can be seen around outdoor lights, which attract insects. Contrary to popular belief, bats are not blind. In fact, some species have excellent vision.

To save energy, bats have the ability to enter a dormant state which make them appear to be sick, asleep or dead. They may also bare their teeth and squeak loudly, leading many people to believe they are vicious. In reality, the helpless creature is only trying to ward off a possible attack.

Bats must also avoid the watchful eyes of their many predators, which include hawks, falcons, owls, cats, snakes, and humans.

Bats in the Attic

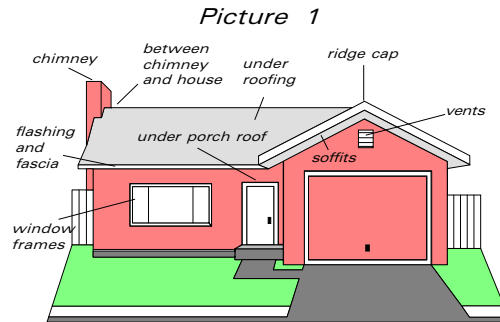
Signs of infestation

Bats are usually detected by their droppings or noise-making. The musty smelling droppings can easily be mistaken for those of mice or birds. However, bat droppings can be crushed into fine, shiny undigested insect parts. By contrast, mouse droppings are firm and do not disintegrate readily. No white colour appears in bat feces as in bird feces.

Roost site identification

In order to determine whether bats are roosting in a structure, its exterior should be inspected before bats leave their roosts (before dark) or when they return from their night escapade (at dawn). Refer to picture 1 for possible entry sites. A watch of an hour or so for a few days should be sufficient to identify all possible entry and exit ways.

Because bats are nocturnal creatures, they will not leave their roosting sites if they are faced with bright light.



Therefore, while inspecting the outside of a structure, one should maintain a dim light by fixing several layers of red cellophane over the head of a flashlight with a rubber band.

Taking count

Marking the entry sites down on a plan of the house and counting the number of bats exiting or entering the building will be a great help when monitoring the results of your control program.

Bat Control

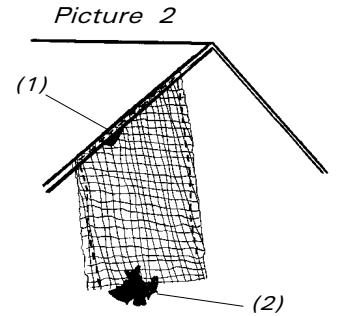
When a bat infestation takes place in your house, you might consider excluding them either by "bat proofing" the structure yourself, installing bird netting, using lights to disturb them, providing alternative bat houses or hiring a company to exclude bats from a structure. A combination of these methods would be most effective. One may be interested to know that newly installed bat colonies will be easier to dislodge.

The best time to control bats is in the spring, before migratory bats return to the roost, or in the fall, when migratory bats have left for the season. This is important in order not to kill the young bats that may be trapped inside the structure. Their carcasses would eventually create an odour and insect problem.

Bird Netting

The installation of bird netting (polypropylene netting) stapled or duct-taped over entry points, the bottom part hanging loosely one to several inches from the building, will enable the bats to crawl under and exit the roost site. On the other hand, returning bats will not be able to re-enter. Refer to picture 2 for an example.

The building should be watched for several evenings at dusk to ensure bats have not found another entry in the same structure. After three to five days, when no more bats are seen exiting the building, the netting can be removed and the holes sealed as stated in the following section.



Open-bottomed bird netting used to exclude bats from the attic. Bat hole (1). Bats can come out (2), but won't be able to return to roost.

Bat proofing

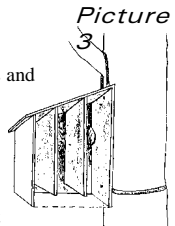
Bat proofing a structure is the best way to manage a bat infestation on a permanent basis. It is essential to seal all points of entry such as spaces under eaves, electrical conduits, and holes around the chimney and windows. Picture 1 provides possible entry points. Vents that must be kept open can be protected with a fine screen. Larger openings can be sealed with a high quality caulk, lath, sheet of metal, or window screen. Unlike rodents, bats will not gnaw their way through, but they will push away loose barriers.

Use of lights

Since bats tend to avoid daylight, illuminating an infested attic may cause them to leave for another location. This method is believed to be most effective if done shortly after bats return from their hibernating sites. It may, however, not be as effective if it is impossible to direct the light to all roosting sites.

Bat houses

Bats are important insect predators and therefore should be encouraged to roost in our neighbourhoods in structures other than those where people are living and working. One way to achieve this is to install bat houses in trees, where bats will not represent a nuisance. Bat houses can be purchased in hardware stores and garden centers or easily built with rough left over wood (see picture 3).



Cross-section of a bat house. The inside consists of

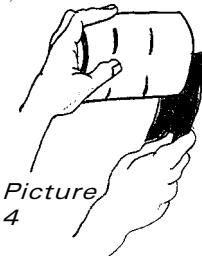
Bat houses must be installed at various heights (from 1.8 m to 12.2 m), protected from the wind and oriented towards the sun in the morning. Different crevices of different widths, placed at different heights, will attract different bat species. The entrance should be at the bottom since bats enter from below, but no obstacles such as tree branches should obstruct it. It may take up to one year before bats occupy these new structures especially designed for them.

Bats as Visitors

If a bat accidentally wanders into a house through a window, door, or unused chimney, one should remain calm and not panic. Don leather gloves because a bat may panic and bite when frightened. Healthy bats have no reason to attack people unless threatened.

Exclusion methods

➤ To remove a bat from a room, only the doors and windows that allow access to the outside should remain open. Wait for the bat to follow the fresh air. Bats usually rest during day time. Therefore, if you want the bat to leave a room of its own accord, wait until nightfall and make sure the room is dark enough for the bat to realize it is night.



Picture 4

Artificial lights may only confuse the bat's instinct.

➤ If the first method is unsuccessful, one may consider capturing the bat and then releasing it outdoors. The bat can be netted or captured in a small box or can (picture 4). Place the container over the bat, then carefully slide a piece of hard cardboard under it, ensuring you do not leave any space for the bat to fly away. These are fragile creatures and therefore should be handled with care.

➤ Another method consists of using a tube (such as one from a roll of paper towels). Seal one end and leave the other open. Slowly move the tube into a horizontal position next to the bat, and often the bat will crawl inside in an attempt to hide. Then set it free.

Once the bat has been removed, you can seal all possible entry points as stated above.

Transmitted Diseases

Rabies

Rabies is a potentially fatal viral disease in man and other mammals. It is transmitted between animals by bites or through contact with saliva or bodily tissues. **Attacks by rabid bats are rare.** An individual bitten or scratched by a wild animal should seek medical attention immediately.

Cats and dogs stand the greatest chance of becoming infected by picking up a diseased animal. The rabies problem is best managed by having pets and valuable domestic stock vaccinated against the disease.

An individual spending considerable periods of time in attics, caves, or possible bat roost sites may consider getting immunized against rabies. **Children should be educated not to handle any wild animal floundering on the ground or a pet with an unfamiliar behaviour.**



A bat found on the ground should be shovelled into a container and transported to public health authorities for autopsy.

Histoplasmosis

Histoplasmosis is a fungal disease in humans that may be contracted through the inhalation of dusty bat manure containing the causal organism *Histoplasma capsulatum*. A respirator and other protective clothing should be worn when working in bat roost sites. Most infections are either asymptomatic or appear as a benign respiratory illness. Bats are not the only source of this pathogen which is dispersed by wind and can be found in soil and bird droppings (for example pigeon droppings).

No pesticidal product is registered in Canada for the control of bats.



Remember

Before Purchasing a Pesticide Product

- Identify the pest correctly.
- Use physical control methods and alternatives to pesticides.
- Read the label directions and safety precautions before buying the product. The label must include the name of the pest to be controlled and the treatment location (e.g., indoor, outdoor, garden uses, pet treatment).
- Purchase only the quantity of product needed for the treatment.
- Alternatively, you may choose to hire a licensed pest control operator.



When Using a Pesticide

- Carefully read all label instructions and precautions before using pesticides.
- Do not drink, eat or smoke while applying pesticides.
- Persons and pets should vacate the area during treatment. Cover or remove aquaria.
- If kitchen area is to be treated, cover or remove food, dishes and utensils.

After Handling a Pesticide

- Always wash your hands thoroughly after handling any pesticide product.
- Do not permit persons or pets to contact treated surfaces until residue has dried completely.
- Provide adequate ventilation of treated areas after use.
- Wipe clean all surfaces that comes in direct contact with food, such as counters, tables and stovetops, including indoor and outdoor surfaces.

➤ Always store pesticides out of reach of children and pets and away from food and beverages.

In Case of Accidental Poisoning

- Call a poison control centre immediately and seek medical attention.
- Take the pesticide container or label with you to the emergency facility or physician.
- Follow first aid statements on the label.
- In case of accidental poisoning of pets seek veterinary attention immediately.

When Disposing of Pesticides

Do not reuse empty pesticide containers. Wrap and dispose of in household garbage.

Unused or partially used pesticide products should be disposed of at provincially or municipally designated household hazardous waste disposal sites.

Use Common Sense

- These are general recommendations.
- Consult the label for specific instructions.
- When in doubt, contact a professional.

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Telephone: 1-800-267-6315
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