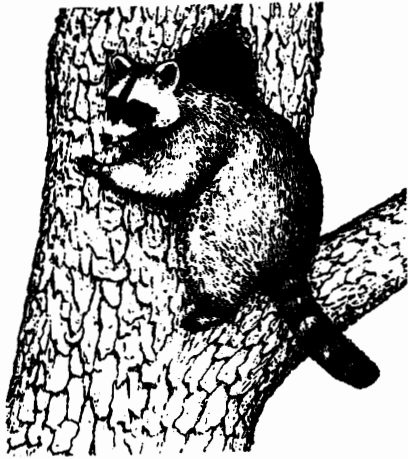


7 MANAGEMENT OF WILDLIFE PROBLEMS



Conflicts between humans and wildlife can be managed using a variety of alternatives. These techniques for managing wildlife damage fall into several broad categories: exclusion, habitat modification, wildlife population reductions, biological control, visual or auditory repellents, repellents, and chemical toxicants. Although exclusion and habitat modification may appear to be more expensive than other methods, they often are the most efficient and provide longer-term relief from damage problems.

Vertebrates, commonly referred to as wildlife, frequently enter structures where humans live. The results range from simple nuisance situations to significant damage and health risks. Woodwork, plastic, or other materials may be damaged; electric wires may be chewed, which could result in system failures and fires; insulation may be soiled and destroyed; and fecal droppings from birds may damage building exteriors. Wildlife can also potentially transmit a variety of diseases and parasites to humans.

A thorough inspection should be the first step. A good flashlight and extendible mirror can help in viewing less accessible locations. Safety equipment, including respirators with HEPA filter, goggles, and knee pads, should be used if entering crawl spaces or

attics. Look for entry holes, fecal droppings, runways (such as in insulation), tracks, rub marks, urine stains, gnaw marks, food caches, nests, odors, noise, and evidence of past control efforts. Also look for burrows, access routes, carcasses, and live animal sightings. Ask, what do you know about the problem?

IPM procedures and options include animal removal, exclusion/repair, prevention of future damage, and monitoring. Unless you are experienced, removal might best be referred to professionals. Many homeowners, however, will want to try excluding pests themselves.

Certain factors should be considered when doing exclusion work. First, before closing animal entry sites, be certain that the animals will not be trapped inside or find their way back in. If you are uncertain, monitor for two days by placing newspaper in the hole, stapling cardboard over the hole, or placing duct tape over the hole. Animals will need to be removed first. Second, the time of year is important. During the winter many vertebrates (chipmunks, raccoons, woodchucks) are inactive for long periods. Snow and ice can make outdoor work difficult. In spring and summer young may be present. Third, exclusion materials should meet building codes, fire codes, or other ordinances. For example, homemade chimney covers often do not meet legal safety requirements.

A variety of materials can be used to close structural openings used by vertebrates. *Galvanized metal* is very durable and when attached with screws is resistant to removal by raccoons and other animals. *Hardware cloth* comes in $1/4$ or $1/2$ -inch mesh sizes. Smaller mesh is appropriate for smaller vertebrates. When hardware cloth is used to fence animals out from under portions of structures that lack foundations, the cloth should be buried about 1 foot deep on one side and attached to the bottom of the structure on the other. *Aluminum flashing* may be used for bird exclusion, but raccoons and rodents can chew or claw through it. *Caulk*, *copper gauze*, or *foam insulation* may be used to close small holes or cracks.

Vents are often sites of entry and should be constructed of metal or

heavy-duty plastic. End caps or ridge vents often come loose; replacement caps can be used to secure them.

Insect screening on the back of vents in attics needs to be intact to keep bats and insects out. Small vertebrates may enter clothes dryer vents.

Caution needs to be used if screening these vents because lint can build up quickly and damage the dryer. Screens need to be cleaned frequently or vents should be replaced with models designed for animal exclusion without lint clogging. Commercially produced chimney covers should be used to prevent raccoons, squirrels, chipmunks, bats, starlings, and house sparrows from entering.

If exclusion is done correctly, it will prevent pests from reentering the structure. Even so, one should monitor the site for a period of time just to be certain. And remember, animals often try to find another way in if the site was a favored one for nesting.

In New York State it is illegal to possess or transport captive wild animals without a special license. The New York State Department of Environmental Conservation (NYSDEC) Special Licenses Unit in Albany (518-457-0689) maintains a list of licensed wildlife nuisance control persons who can trap and transport vertebrate pests. It is sometimes legal for a landowner to use lethal techniques (shooting or trapping) to reduce numbers of certain wildlife species causing property damage, but check with your regional NYSDEC office before implementing these methods. Observe all local laws and exercise all precautions.

Table 7 lists cultural methods for reducing damage caused by wildlife species. Chemical repellents and toxicants are listed in Part II, Table 8.

Table 7. Wildlife damage management methods

<i>Animal</i>	<i>Damage management methods</i>
Bats	Seal openings in eaves and attic with 0.25-in. hardware wire, screen, or caulking. Do not seal openings from May through mid-August when flightless bat pups may become trapped inside. Lighting and ventilating attics may discourage bats from roosting. Offer a “bat house” away from areas of human activities. Avoid direct contact.
Birds	Cover fruit trees, berry plants, and grape rows with protective netting. Netting will last 3 to 10 years depending on its quality. Visual or auditory scare devices can provide temporary relief.
Chipmunks	Exclusion or habitat modification will discourage animals from entering buildings. Live-animal or snap-back traps baited with corn, sunflower seeds, whole peanuts, or peanut butter can be used to reduce chipmunk numbers.
Deer	Commercial chemical repellents will reduce damage if browsing pressure is low to moderate. Electric or woven-wire fencing can exclude deer from crops or ornamental plantings. Individual plants can be protected with woven-wire cages or fencing. Carefully selecting landscape plants can reduce deer damage to ornamentals (see Further Reading).
Mice	Seal openings and mow close to home foundations. Snap-back traps baited with peanut butter can reduce numbers. Use tamper-resistant poison bait stations for commercial rodenticides in homes and other occupied structures. Voles can be excluded with circular 0.25-in. wire guards surrounding bases of trees (allow room for five years’ growth of tree). Mulches may attract orchard mice to ornamental plants and increase girdling damage. Using herbicides or closely mowing around fruit trees can also reduce damage.
Moles	Commercial mole traps are most effective control technique.
Pigeons	Screen roosting ledges with hardware wire or plastic netting. Commercial live traps, porcupine wire, post-end-wire systems, and commercial electric shock systems are available. Professional assistance may be necessary.
Rabbits	Use 30-in.-high, 1-in. poultry wire to exclude rabbits from gardens. Circular 0.25-in. hardware wire guards can protect trees or shrubs. Commercial repellents are available. See Part II, Table 8. Baiting a box or cage with apples or shooting rabbits can reduce numbers. Mowing and removing brush piles will make an area less attractive to rabbits.
Raccoons	Use tight-sealing garbage can lids and feed pets indoors. Electric fencing can exclude raccoons from gardens. Animals can be cage trapped using marshmallows as bait.
Rats	Seal openings and mow close to home foundations. Remove brush piles or nesting materials and sources of food. Baited snap-back rat-size traps can reduce numbers.
Skunks	Seal openings to building or foundations at night after skunks leave (except during mid-May and June when young may be in den). Elevate beehives at least 3 ft. above ground. Skunks can be live-trapped with canned fish or eggs (won’t attract cats) as bait. Cover all but opening of live traps with dark plastic to avoid being sprayed during transport. Skunks trapped in pits or cellar windows can be removed by carefully lowering a board with cleats nailed 6 in. apart. Animals will climb out if left undisturbed. Professional assistance may be necessary.
Snakes	Seal openings and mow close to home foundations. Remove brush piles or other suitable cover, and reduce rodent populations in dwellings.

Table 7. Wildlife damage management methods (continued)

<i>Animal</i>	<i>Damage management methods</i>
Squirrels	Use metal flashing or hardware wire to seal openings to homes. To prevent squirrels from foraging in nut trees or bird feeders, attach 2-ft.-wide metal bands to trunk or pole. Cone-shaped metal guards are also effective if mounted 5 ft. or more above ground. Squirrels can be baited with walnut meats, sunflower seeds, or peanut butter and live-trapped. Shooting is effective where legal.
Woodchucks	Shooting and trapping can reduce woodchuck numbers. Vacant burrows are often quickly occupied by animals from surrounding areas. Heavy welded-wire fencing (buried at least 1 ft. deep) may provide longer-term protection for gardens. Mowing and removing brush piles can make areas less attractive to woodchucks.

FURTHER READING

Consult the Cornell University *2000 Management Guidelines for Control of Wildlife* for a more detailed discussion of management options.

Bird, D. M. 1986. *City Critters: How to Live with Urban Wildlife*. Eden Press, Montreal, Quebec. 115 pp.

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