

Land & Water

Conserving Natural Resources in Illinois

University of Illinois Extension • College of Agricultural, Consumer and Environmental Sciences

Managing Wildlife Damage

The Wildlife Dilemma

Studies show that people often landscape yards or acreage specifically to attract certain wildlife. However, the creation of any habitat—gardens, flowers, shrubs, and trees—will attract many types of wildlife, whether welcome or not.

Unwelcome wildlife may conflict with human goals such as a fresh supply of vegetables, flowers for the home, or fruit from an orchard. Such wildlife may be considered a “nuisance” and cause considerable damage.

Most wildlife species are protected by state and often federal laws. A wildlife nuisance permit, requested through an Illinois Department of Natural Resources district wildlife biologist, is required for removal of any nuisance animal—bird or mammal.

In addition, any wildlife protected by federal law, primarily birds, will require a federal permit. However, European starlings, house sparrows, and pigeons are not protected under state or federal law and can be removed without a permit.

An alternative to removal is population reduction through hunting and trapping. These activities may only be done during open season for that species, and you must have a valid Illinois hunting and/or trapping license and follow all applicable laws.

Management Techniques

The best approach to managing wildlife nuisance conflicts is *prevention* and *anticipation*. Prevent wildlife from inhabiting a home through good home maintenance: repair screens, fill holes/gaps/large cracks, and install chimney caps.

Outdoors, clean up spilled bird seed, remove pet food containers at night, and store garbage in containers with tight-fitting lids to decrease nuisance wildlife visits. Protect the landscape by fencing around trees, plants, or an entire area. Remember that openings in a wire fence must be small enough to exclude the unwanted species and, in most cases, must be buried.

Repellents offer protection to chosen areas or plants. To increase effectiveness, use them only on selected plants, leaving alternative food sources available to wildlife. Always read and follow label directions on any pesticide.

Frightening devices and techniques are only recommended for short-term crop or landscape protection. Their effectiveness can be increased by moving the visual or sound devices to different locations.

There are very few toxicants for wildlife control, limited primarily to rodents. Home remedies, such as antifreeze, are illegal and should never be used.

What follows are guidelines for wildlife damage control, species by species in alphabetical order.

Bats

Exclusion: Bat removal is often best left to professionals. But here is how it is handled.

Watch the exterior of the building at dusk (one-half hour before sunset) for one hour to determine major entrances to the roost site.

Seal all gaps of $\frac{1}{4} \times 1\frac{1}{2}$ inches or holes $\frac{7}{8}$ inches diameter or greater. Seal minor points of entry first. Temporarily seal major entrances after bats leave the roost in the evening. Then check to see if any bats are trapped in the building. Reopen major entrances for a short period a second or third night as needed.

A one-way valve made of plastic mesh can also be used to assist in getting rid of the last remaining bats, allowing bats to leave but not get back in the building. After all bats are removed, permanently seal all openings.

Bat removal should occur before the young are born (May to July) or after the young are weaned (July to August).

Occasional Bat Intruders: Confine the bat to one room and open windows to allow the bat to escape. Bats can carry rabies and will bite if picked up for removal.

Beavers

Population Reduction: Trapping can be done by license during the season. At other times, a nuisance permit or use of a licensed nuisance control trapper is required.

Exclusion: Protect individual trees using hardware cloth, woven wire, or other metal barrier. Fencing can be used to keep beavers out of culverts, drain pipes, or other structures.

Cultural: A device referred to as a Clemson beaver pond leveler can be installed under dams to maintain water flow and reduce flooding where beavers are to be tolerated.

Geese

Habitat Modification: If your pond has an 18- to 24-inch vertical bank at the water's edge, this will discourage the geese from nesting because steep slopes are less suitable for raising young. On smaller ponds, plant trees around the pond to interfere with the birds' flight path, but keep trees off of the dam.

Stagger plant shrubs in lawns to reduce the birds' visibility. Plant taller grass species and

limit mowing to once or twice a year along the shoreline. Allow ponds to freeze in winter. Do not feed geese.

Exclusion: Three-foot high poultry wire fences will help keep birds out of gardens or yards. Good results have also been reported using 20-pound or heavier monofilament line to make a two- to three-strand fence. The first line should be 6 inches off the ground, with each additional line spaced 6 inches above the preceding line.

Aluminum foil helps increase the visibility of this type of fence. The monofilament fence is most effective if it is built before geese start nesting in early March.

Wire mesh fences are also effective. Fences must be 2 feet tall, installed at the water's edge, and must remain tight.

Taste repellents: Several taste repellents are available for use on turf where geese feed. These are most effectively used in areas where geese cannot be tolerated, while leaving other areas of turf untreated.

Repellents must be reapplied as the turf grows; therefore, this technique might best be used to train the geese to stay out of certain portions of yards.

Geese and all waterfowl are protected by federal laws. It is illegal to destroy nests and eggs without a federal permit. In certain situations and settings, a permit may be issued to destroy eggs. Contact the district Illinois Department of Natural Resources (IDNR) wildlife biologist to evaluate a specific situation.

Groundhogs

Exclusion: Fencing can help reduce damage. Fences should be at least 3 feet high with 12 inches buried in the ground. The bottom edge of the buried portion should be bent outward 2 to 3 inches. An electric wire located 4 to 5 inches above the ground outside the fence will discourage climbing and burrowing.

Fumigants: Carbon monoxide gas cartridges can be placed in burrows. Follow label directions for the use of cartridges and do not use if the burrow extends under a building. *Obtain a nuisance permit from the IDNR before destroying animals using this technique.*

Moles

Mole hills are volcano-shaped, 2 to 24 inches high, and made of clods of soil. Pocket gopher mounds are kidney shaped and are made of finely sifted and cloddy soil. A plug of soil can also be seen in a pocket gopher mound.

Exclusion: Protect small garden areas by installing a metal or hardware cloth barrier. A 24-inch-wide roll of wire mesh or sheet metal should be folded in half at a right angle. Bury it 12 inches deep with the folded section facing out from the garden.

Habitat Modification: Control white grub populations in the lawn. Packing soil with a lawn roller will make the lawn less attractive to moles but may have a negative effect on turf growth.

Trapping: Trapping is the most practical and successful method. There are a number of traps on the market that are set in the shallow tunnels, dug into the soil surface.

Select a shallow tunnel that has signs of fresh mole activity (raised soil) and where the burrow runs in a straight line. If the trap fails to catch a mole in two days, move the trap to a new location.

The best way to determine active tunnels is to push down the soil in the shallow tunnel in several locations. If the soil is mounded back up within 24 hours, press the soil down again and set the trap.

Opossums

Exclusion: Keep garbage can lids tightly fastened, using rubber straps or other methods when necessary. Also, tightly close lids on garbage dumpsters.

Opossums may use an attic as a den, so repair loose fascia boards and attic vents, and repair any other hole that might provide access.

Pigeons

Exclusion: Screen the eaves, vents, windows, doors, and other openings with ¼-inch mesh hardware cloth or nylon bird netting. Change the roosting ledge angle to a 45-degree or greater angle. Attach porcupine wires (*Cat Claw* or *Nixalite*) to roosting sites.

Habitat Modification: Eliminate feeding, watering, and nesting sites. Clean up spilled

grain and discourage public feeding of the birds. Cage traps can help reduce the population in certain situations.

Rabbits (Cottontail)

Exclusion: Wire mesh fencing can keep rabbits out of garden areas. A 4-foot-wide roll of wire mesh fencing will allow the fence to be buried to prevent burrowing under by rabbits.

Bury the fencing 6 inches deep, leaving 3½ feet above the ground. The mesh size should be 1 inch or smaller.

Protect young trees with cylinders of wire mesh fencing (¼" x ¼" square openings). The cylinder should extend 2 feet higher than the deepest expected snowfall and stand 1 to 2 inches out from the tree trunk.

Habitat Modification: Remove brush piles, weed patches, stone piles, and other debris.

Repellents: Many commercially available repellents contain the fungicide, thiram. These are taste repellents and should not be used on plants that will be used for human consumption.

Repellents may need to be reapplied as the plant grows or following heavy rains. Rabbits may ignore the repellent if other food sources are not available.

Raccoons

Exclusion: Store garbage in metal or tough plastic containers with tight-fitting lids. It may be necessary to secure the lid with wire or other type of clamp.

Attach a heavy-duty, commercial grade chimney cap over the top of the chimney. Remove tree branches that overhang the roof to limit access to chimney or attics. Close all openings to attics. If exclusion is done during the spring or summer, make sure all raccoons are out of the building.

An electric fence can be used to keep raccoons out of gardens in rural areas. Two wires, 6 inches apart, are recommended, with the bottom wire located 6 inches above the ground. Electric fences can be activated at dusk and turned off at daybreak with a timer to reduce the possibility of accidental contact by humans.

Frightening or Repellents: Frightening with noise, lights, or other methods works only temporarily. No repellents are currently registered for use.

Skunks

Exclusion: Skunks will sometimes dig their den under a building. Seal off all foundation openings with wire mesh, sheet metal, or concrete. Cover window wells with wire mesh. Use tight-fitting lids on garbage cans.

Habitat Modification: Skunks eat insects, so control lawn grubs. They are also attracted to sheds or other buildings with a good mouse supply, so control mouse populations in these areas. Remove piles of debris, lumber, fence-posts, etc., because they use these areas for den sites.

Odor Removal: Diluted solutions of vinegar or tomato juice may be used to eliminate most odor from pets, people, or clothing, but staining may occur. Neutroleum alpha (active ingredient) is a scent-masking solution that may be obtained at some commercial cleaning suppliers.

Wash the contaminated item (dog, clothes, etc.) in the following solution (*Chemical Remedy*, by P. Krebaum, 1993):

- 1 quart of 3-percent hydrogen peroxide
- ¼ cup of baking soda
- 1 teaspoon of liquid soap

Sparrows (House)

Exclusion: Close all openings over ¾ inches. Large openings, such as bell towers, can be screened with poultry mesh, wire, or plastic netting with openings less than ¾ inches. Attach signs flat against buildings. To prevent sparrows from using wren birdhouses, make the opening no larger than 1 inch in diameter.

Squirrels

Exclusion: To prevent climbing on isolated trees or power poles, attach a 2-foot-wide metal collar around the tree or pole, 6 feet off the ground. On trees, attach the metal collar with wires held together with springs to allow for growth.

Close openings to attics or other building areas; make sure animals are not trapped inside. Place a trap inside the attic or other area as a precaution after closure or install a one-way door over the opening temporarily.

An 18-inch-long section of 4-inch diameter plastic pipe, pointed down at a 45-degree angle

can be placed in the access hole instead of a one-way door

Habitat Modification: Trim tree branches back 10 feet from buildings to prevent access to roofs. If squirrels are a problem around bird feeders, provide additional squirrel feed (corn) away from bird feeders. Capsaicin, a taste repellent, can be used in bird feeders.

Repellents: Naphthalene may temporarily discourage squirrels from entering a building. Place mothballs at the entrance to the squirrel den, but do not place them inside your attic. A light in the attic may help discourage use of the area. *Ro-pel*, a taste repellent, can be applied to seeds, bulbs, trees, shrubs, fences, siding, and outdoor furniture.

Starlings

Exclusion: Close all openings larger than 1 inch. Change the roosting ledge to a 45-degree or greater angle. Attach porcupine wires (*Cat Claw* or *Nixalite*) to roosting sites. Plastic or nylon bird netting can be used to exclude birds from building rafters and fruit trees.

Tree Roosts: When roosts occur in a small number of landscape trees, branches can be thinned to make the site less attractive to starlings. However, do not remove more than one-third of the tree's branch and leaf area. This should be done only if birds cannot be frightened or moved from the roost area.

Harassing birds in the early evening as they attempt to land can be effective if done throughout the roost site. This may require the coordination of all residents in a neighborhood and/or city officials.

Frightening must be done for three to four consecutive evenings or until the birds are gone. It's most effective if started shortly before the birds have established the roost. Spraying the birds with water as they come in to roost can move birds to other trees within the roost area.

Voles

Voles are active year-round, with a home range of ¼ acre or less. Populations tend to be cyclical with peaks occurring every two to five years. Damage includes eating plants, chewing bark off young trees, and damage caused by surface "runways"—pathways that voles cut through the grass and other vegetation.

Exclusion: Hardware cloth cylinders ($\frac{1}{4}$ " mesh or smaller) can be used to protect seedling trees. The wire must be buried to a depth of 6 inches.

Habitat Modification: Mow between trees to expose voles to predators. A pre-emergent herbicide can also be used to keep vegetation from around trees. Mulch should be raked at least 1 inch away from the tree seedlings' stem in the fall.

Trapping: Mouse traps are effective in small areas. Set traps along runways every 10 to 20 feet. Bait with peanut butter, oatmeal, or pieces of apple.

Toxicants: Zinc phosphide, a restricted-use pesticide, is labeled for vole control use in some formulations. *Note: Restricted-use pesticides can only be purchased and applied by individuals with a private or commercial pesticide applicators license.* Zinc phosphide is extremely toxic to other wildlife, especially birds. So take extreme care when using it near a waterfowl or other bird-feeding area.

Some anticoagulant baits are labeled for use on voles, but they will require multiple feedings. Always read and follow pesticide labels.

White-tailed Deer

Exclusion: Where deer are abundant and crops are of high value, electric fencing can help minimize damage. There are a number of fence designs depending on the field size and deer population. Specific fence designs can be obtained through your local wildlife biologist or Extension office. Fencing is an expensive management tool, so use it only when economically feasible.

Protect individual trees from antler rubbing by placing a 4-foot-high, woven-wire cylinder around the tree trunk. Anchor cylinders to the ground with metal stakes.

Repellents: These are best suited for orchards, gardens, and ornamental plants. Repellents are expensive and have some limitations on use. The success of repellents is measured in the reduction in damage, not elimination. Here are some commonly available repellents. Always read and follow the label's recommendations.

Deer-Away Big Game Repellent: This contact (odor/taste) repellent is registered for use on fruit trees prior to flowering, as well as ornamental and Christmas trees. Applications usually are effective for two to six months.

Thiram: This fungicide acts as a contact taste repellent and is sold under several trade names. It's commonly used on dormant trees and shrubs. It's recommended that you add an adhesive such as *Vapor Gard* to resist weathering.

Ro-pel: Apply this contact taste repellent once a year to new growth. It may need to be reapplied (read and follow label). It is labeled for nursery and Christmas trees, ornamentals, and flowers.

Habitat Modification: Select plant species which are less susceptible to deer browsing. Success may vary according to the deer density, other available food supplies, and the severity of the winter.

Woodpeckers

Woodpeckers will select drumming locations in the spring during the breeding season. This is a seasonal and short duration activity. Frightening can have an effect if implemented during territory establishment.

Exclusion: Netting is one of the most effective methods. Lightweight, plastic bird netting with a mesh size of $\frac{3}{4}$ inch is generally recommended. Leave at least 3 inches of space between the netting and the damaged area.

The netting needs to be attached to the building so birds cannot get behind it. Metal sheathing or plastic sheeting placed over the damaged area can also be effective. Do this as soon as damage is noticed before woodpeckers establish their territory.

Quarter-inch hardware cloth can also be attached over damaged areas, either directly on the wood surface or raised 1-inch outward from the surface with wooden spacers.

Frightening Devices: Stationary model owls or hawks and cat silhouettes are generally considered ineffective. Plastic twirlers, brightly colored plastic strips, and aluminum or mylar foil suspended from the eaves of a building have shown some success, especially if placed on the structure soon after the damage appears.

Yellow-bellied Sapsuckers

Exclusion: Damage on trees is seen as horizontal or vertical rows of holes on the trunk of a tree.

Sapsuckers usually have “favorite” trees, not by species but by preference. These trees can be protected by wrapping the damaged area with burlap, plastic mesh, or ¼-inch hardware cloth. However, this may make the sapsucker move to another tree, so in an orchard or forested area this treatment is impractical.

Information Source: *Prevention and Control of Wildlife Damage*, Cooperative Extension Service, University of Nebraska, Great Plains Agricultural Council Wildlife Committee, and the United States Department of Agriculture, Animal and Plant Health Inspection Service—Animal Damage Control, Editors: Scott E. Hygnstrom, Robert M. Timm, and Gary E. Larson

Web Sites for More Information

The Internet Center for Wildlife Damage Control
<http://icwdm.org/>

USDA Animal and Plant Health Inspection
Service – Wildlife Services
<http://www.aphis.usda.gov/oa/new/ws.html>

University of Illinois Extension
<http://www.extension.uiuc.edu/>

Wildlife Nuisance Control Permits

Contact your local **Illinois Department of Natural Resources** wildlife biologist at the District office closest to you.

The Illinois Department of Natural Resources web site: <http://dnr.state.il.us/>



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