



HOME & GARDEN

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Dealing with Nuisance Wildlife

As urban development moves into undeveloped areas, homeowners may encounter conflicts with wildlife in their backyard. Animals may move into new areas to find food, water, and shelter. Conflicts can occur when a home is not properly sealed, vegetable gardens are not fenced, or food sources for wildlife are scarce during the winter.

When a conflict does arise it is necessary to identify the animal, as well as the extent of the problem. Control methods depend, in part, on whether or not young animals are involved that are dependent on adults. Control options need to be considered to prevent future reoccurrence. Learning about the biology and behavior of the animal can help with effective control decisions and make coexistence easier. (For example, some wildlife may visit the backyard and cause no damage). Wildlife is a valuable part of our ecosystem. It is our responsibility to reduce conflicts in a practical and environmentally acceptable manner that benefits humans and wildlife.

There is no single guaranteed solution to prevent or control an animal problem. A variety of strategies and devices for animal control may be needed such as exclusion, modifying habitat, repellents, scare tactics, and peaceful coexistence. Live trapping and relocating animals is considered a last resort. Animals may not be able to find food and shelter in a new location, making them susceptible to predators and diseases. It may not be legal to relocate some species of animals, as they may be rabies vector species. The best solution is to manage the source of the attraction. Live trapping and relocation can solve specific nuisance wildlife problems, such as squirrels in the attic, when followup home repair prevents future access.

This fact sheet provides some basic guidelines for dealing with wildlife in and around the home. It provides general wildlife prevention guidelines and where to seek help, if you cannot resolve wildlife problems on your own. Detailed sections are provided for handling moles, squirrels, and groundhogs. Additional information and control options are also included on the following animals: bats, birds, chipmunks, deer, mice, rabbits, raccoons, rats, skunks, snakes, and voles.

GENERAL WILDLIFE PREVENTION GUIDELINES

Many conflicts with wildlife can be prevented by following these guidelines:

- Close off access around foundations of buildings, porches, and sheds.
- Cover basement window wells so small animals are not trapped inside them.
- Prevent entry into attics by replacing rotted boards and torn screens.
- Cap chimneys.
- Trim branches overhanging the roof line or touching the house.
- Remove all food sources outside – feed pets inside the home.
- Do not feed wildlife. It upsets the size of the local wildlife population, leads to their becoming pests, and may cause the spread of disease.
- Remove or modify bird feeders to keep feeding areas clean.
- Reduce damage to gardens and ornamental plants with repellents and fencing.
- Store garbage so it will not attract animals. Use trash cans with latches that are difficult to open or secure the lid with a bungee cord.
- Stack firewood away from your home, as it is a favorite hiding place for mice and snakes.

WHERE TO SEEK HELP

Wildlife Information & Permits

Many nuisance animals are regulated and protected by federal, state, and/or local laws. The purpose of these laws is to conserve a valuable resource while also helping landowners properly deal with nuisance wildlife.

The Nuisance Wildlife Information Line (NWIL) enables homeowners to receive guidance on nuisance, injured, or sick wildlife. This service is provided jointly by the Maryland Department of Natural Resources (DNR), Wildlife and Heritage Services, and the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services

Educating People To Help Themselves

Local Governments - U.S. Department of Agriculture Cooperating

Program (USDA-APHIS). The NWIL offers safe and legal ways to deal with problem animals. Call toll free at **1-877-463-6497** M-F from 8 a.m. to noon and 1 to 5 p.m. Permits to control nuisance wildlife can be issued over the phone on a case by case basis.

Professional Help

When faced with a nuisance wildlife issue homeowners can handle the problem themselves or hire a licensed Nuisance Wildlife Control Cooperator to resolve the problem. These individuals are licensed by the Wildlife and Heritage Service, DNR, and have the experience and tools to do the job. Wildlife Rehabilitators are volunteers licensed by the Wildlife and Heritage Service to care for orphaned, sick, or injured wildlife until they can be released safely into the wild.

The NWIL maintains a list of Nuisance Wildlife Control Cooperators and Wildlife Rehabilitators by county. The list is available online at www.dnr.state.md.us/wildlife/wlproblems.asp

TYPICAL NUISANCE WILDLIFE

The information below refers to typical nuisance wildlife that homeowners may encounter in their backyards or homes. General control information is provided for moles, squirrels, and woodchucks (groundhogs).

MOLES

The eastern mole can be found throughout Maryland. Moles are insect eaters, not rodents. They live underground and tunnel in loose, moist soils for earthworms, beetles, grubs, and other soil insects. Moles cover a wide area to satisfy their food requirements and are active year round. They live alone but burrow systems of several moles may connect. Moles breed in the spring and have one litter of three-five young per year. The young spend about 6 weeks in the nest and are nearly full grown when they leave.

Moles construct deep main runways underground where they raise their young, retreat during cold, dry periods, and provide cover from predators. Mounds of soil (molehills) pushed up to the surface are the only evidence that deep runways exist. Deep runways connect to a network of shallow feeding runways just under the soil surface. Surface tunneling is greatest in the spring, fall, and rainy periods in the summer when soil moisture levels are higher and prey are closer to the surface of the soil. Surface runways may be used often or abandoned. Active runways usually run along fence rows, walkways, structures, or the woody perimeter of a yard or field. Typically, a single acre supports no more than 2-3 moles. However, lawn areas surrounded by woods, pastures, or weedy fields may support a larger population of moles.

Mole activity in lawns and gardens can be a concern to homeowners. A mole's surface tunneling creates raised ridges in lawns which makes the yard surface uneven and mowing difficult. Turf may brown as grass roots are damaged by exposure to air or burrowing. Moles may disrupt plant roots in search of food but they are not responsible for damage to plants, seeds,

or bulbs. Moles often get the blame for plant damage caused by voles (meadow mice). Voles will often live in and move through mole runways and eat plant roots, bark, and tubers. Moles have adapted to home landscapes. They can be beneficial by feeding on the larvae and adults of many pest insects in lawns and gardens. Their tunneling activity loosens the soil, improves aeration, and mixes deeper soils with surface organic material.

Control Options

There are no easy solutions for dealing with moles.

- Try coexistence. The mole usually moves on when its food supply and habitat changes. If surface runways do not collapse naturally, tamp them down when the ground is not soggy (to avoid soil compaction). Turf may require some reseeding in the fall or early spring.
- To reduce conflicts with moles keep lawn size to a minimum. Establish paths, hedgerows, or native plantings that provide a habitat for birds and other wildlife.
- Watering lawns can bring soil invertebrates and moles closer to the surface. Reducing the amount or frequency of watering may reduce mole damage temporarily.
- Sometimes moles can be excluded from flowerbeds or home gardens by installing barriers of sheet metal or hardware cloth.
- If moles are causing damage, trapping is the most effective control method. However, control may be short term, if excellent habitat is present and nearby mole populations are high. Trapping takes patience, practice, and persistence. Proper trap placement in active surface runways is required. A variety of lethal mole traps are available (harpoon, scissor, or choker style) to control moles. Traps can be purchased at farm co-op, home improvement and hardware stores, and online. Follow all label directions when handling traps. Do not use if children or pets will be unsupervised in the area. Place a plastic pail over the trap to discourage tampering.

Control Methods NOT Recommended

Vibrational devices, mole plants, poison baits or home remedies have not been proven effective in controlling moles. Repellents have a limited success rate. The application of lawn insecticides to kill grubs is no longer recommended for mole control. Moles feed on other available food sources such as earthworms, making grub control ineffective. Grub control products should only be applied to lawns that have experienced a grub infestation.

SQUIRRELS

The eastern gray squirrel is the most common species in Maryland. Squirrels are tree dwelling rodents. They are active in the daytime and readily noticed by homeowners.

Gray squirrels are found in mixed hardwood forests, as well as, suburban and urban areas. Mature trees provide food and nesting sites. Squirrels prefer to nest in tree cavities but will construct leaf nests in treetops made of leaves, twigs, and stripped bark. They breed in mid-December or early January and in June. The female bears three or four young which are dependent on her for about three months. When food is plentiful, gray squirrels have a potential for rapid population growth. Many homeowners coexist with squirrels and enjoy their behavior but sometimes their activity can cause problems indoors in homes or outdoors in gardens or near birdfeeders.

Dealing with Squirrels Indoors – A squirrel's most damaging activity is gnawing an entrance hole into attics, nesting, damaging insulation, and occasionally chewing on wires creating fire hazards. Squirrels are good climbers and can enter homes by chewing under eaves, entering through natural openings like uncapped chimneys, or gaining entrance if tree limbs overlap the roof line. Prevent squirrel damage by trimming branches eight to ten feet from buildings to limit access to roofs and remove food sources outdoors. Screen openings such as attic louvers, vents, and fans with ¼ inch mesh hardware cloth. Close eaves tightly, replace rotten boards, and cap chimneys.

If squirrels mistakenly find their way into the living area of a house, darken the room and open a door or window to the outside. Keep lights on all night to drive them out. Live trapping is an option if squirrels are not able to leave on their own or if nesting in homes. Sometimes the nest area can be inaccessible and young squirrels may be present. Contact the NWIL at 1-877-463-6497 for the best way to handle the situation. A licensed nuisance wildlife control cooperater can be hired to remove the squirrels. They can install one-way doors, trap, and repair damage. A permit must be obtained from the NWIL, if you intend to live trap and relocate the squirrels. Permission from the landowner is required before releasing into suitable habitat. In all situations, openings should NOT be sealed until all squirrels are out of the building. Squirrels that are left inside can cause damage when they try to chew their way out

Dealing with Squirrels Outdoors - Squirrels feed on a variety of foods. Acorns, hickory nuts, walnuts, and Osage orange fruits are among their favorite foods in the fall and early winter. Nuts are often stored for later use. During spring and summer when nuts are scarce, squirrels feed on tender tree buds, succulent green plant material, planted seeds, flower bulbs, fungi, berries, mature fruits such as tomatoes, and fruits on fruit and nut trees. Occasionally squirrels feed on insects, bird eggs, nestlings, and chew bark from a variety of trees. Squirrels also raid bird feeders. Live trapping and relocating squirrels because they are raiding a bird feeder is not an effective solution. More squirrels will move in to take their place. The best control is to remove the source of attraction.

Squirrel activities that cannot be controlled include, clipping branches from trees for nest building, stripping bark from tree branches and trunks, and digging in lawns to bury or search for nuts.

Control Options

- Remove access to food sources such as bird feeders. Some squirrel proof feeders may deter squirrels. Rake fallen acorns and other nuts from the ground.
- Use an alternate attractant for birds such as a birdbath.
- Protect gardens with wire-mesh fences topped with electrified wiring. They are effective but expensive.
- Individual or small groups of plants may be protected by draping mesh netting or a floating row cover over the plants and securing it to the ground. Small commercial fruit growers sometimes tie a small paper bag over each fruit to prevent damage.
- Repellents can be applied to seeds, bulbs, flowers, trees, and shrubs and should be used according to label directions. Repellents usually have a limited success rate.
- Protect newly planted bulbs with a piece of one-inch mesh chicken wire extending at least a foot beyond the edge of the bed and mulch.
- Plant bulbs that squirrels do not like to eat such as: Allium (Ornamental allium), Anemone (Grecian windflower), Chionodoxa (Glory of the snow), Frittilaria, Galanthus (Snowdrop), Hyacinthoides hispanica (Spanish bluebell), Leucojum (Snowflake), Muscari (Grape hyacinth), Narcissus (Daffodil), and Scilla.
- Sprinkle crushed oyster shells (available at farm co-op stores) over the surface of the garden to deter digging.

WOODCHUCKS (GROUNDHOGS)

Groundhogs adapt well to suburban areas and sometimes their burrowing and feeding habits may be a problem for homeowners. The groundhog is a rodent and a large member of the squirrel family. Groundhogs live in burrows located along roadsides, fields, at the base of trees, and around building foundations. Burrows are used for mating, hiding from predators, and hibernation. Burrow systems are extensive and usually have two or more entrances. Main entrances are about a foot wide with a mound of soil around them. Secondary entrances are usually dug from below and are well hidden. Groundhogs hibernate during the winter until late February-early March. They breed in March-April and produce a single litter of two to six young. Young groundhogs leave their burrows by early July and search for their own home.

Groundhogs can present a challenge to gardeners. They are herbivores and feed on a variety of wild and cultivated flowers, grasses, weeds, and garden vegetables such as broccoli, beans, lettuce, and squash. Groundhogs feed primarily in the early morning and evening because they depend on dew and plant moisture for their water intake. They travel only 50 to 150 feet from their den in search of food. In late August and September, groundhogs have ravenous appetites as they prepare to hibernate. Groundhogs are good climbers and persistent diggers. Fencing can reduce damage to gardens, only, if you can prevent climbing and burrowing.

Control Options

- Fences should be about four feet high and made of heavy poultry wire or two-inch woven mesh wire. Bury the lower edge 12 inches in the ground with the lower six inches bent at an L-shaped angle leading outward. Bending the top 15 inches of wire fence outward at a 45-degree angle will prevent climbing. Leave some slack in the fencing so the animal's weight will carry it backwards and inhibit climbing.
- A single strand of electric wire placed four to five inches above the ground sometimes deters groundhogs from entering gardens.
- Eliminate overgrown areas and brush piles to reduce food and cover.
- Plant a "trap" crop of wildflowers and grasses, as an alternate food source, some distance away from the house and gardens. Groundhogs prefer to feed at safe distances from humans.
- Frightening devices (e.g. motion sprinkler devices) can provide a temporary remedy. Effectiveness may be prolonged by moving the device regularly.
- No repellents are registered for groundhog control.

Groundhogs Under Structures

Sometimes a groundhog may burrow under porches, garden sheds, or other outdoor structures. In some cases, homeowners coexist with the groundhog. If the burrowing conflicts with human interests, then control options need to be considered to reduce conflict and prevent future reoccurrence.

Attempts to discourage groundhogs from living under a building by using repellents or scare tactics are not effective. Groundhogs usually burrow elsewhere on the property. Live trapping is an option. You can hire a licensed nuisance wildlife control cooperator to live trap a groundhog. They have access to professional baits/lures and the equipment required to do the job. If you intend to live trap a groundhog, contact the **NWIL at 1-877-463-6497** for more information. No permit is required to trap a groundhog. However, permission is required from the landowner before releasing into suitable habitat. Consideration should be given to relocating groundhogs during spring while the young are in the den or in the autumn immediately before hibernation when there may not be time to establish a winter den.

After the animal is removed, cover the opening with heavy poultry wire or two-inch mesh woven wire to the bottom of the building and bury the bottom of the wire 10 to 12 inches below the ground. Bending the buried section at an L-shaped angle leading outward can help prevent burrowing and future access.

ADDITIONAL WILDLIFE SPECIES

Additional wildlife species with general control information are listed below. Detailed information on specific wildlife species can be obtained from the following sources:

- Nuisance Wildlife Information Line at **1-877-463-6497**
- Home & Garden Information Center Plant Diagnostic Website, Wildlife Section > <http://plantdiagnostics.umd.edu> click on Wildlife > Animal profiles

- Maryland Cooperative Extension Publications > <http://pubs.agnr.umd.edu> > Lawn, Garden and Home > Wildlife
- Wildlife Publications from the Internet Center for Wildlife Damage Management, University of Nebraska, Lincoln <http://icwdm.org/Default.asp>

Bats – Exclusion from buildings and sealing the entrance holes is the only long-term solution for bat control. Bats are a protected species and are beneficial. If bats are roosting in your house it is important to know the facts on excluding bats, the proper time frame for batproofing your house, and information on providing bats with an alternate roosting site. Batproofing should be done after September 1 and before hibernation begins, which is normally in November. Bats may not be excluded during the summer months because nursing pups (young bats) may be trapped inside. It is advised not to exclude during winter to avoid trapping hibernating bats inside. For additional information refer to:

- <http://pubs.agnr.umd.edu> > Lawn, Garden & Home > Pest Control > FS-791 "Got Bugs? Get Bats!"
- www.dnr.state.md.us/wildlife/bats/batsinhome.asp > "Bats in Houses" > "Who Can Help"

Birds – Control depends on the species and the situation. Approaches to bird control include visual (lights, scarecrows, owls, Mylar tape with a shiny coating) and sound tactics (starting pistols, blanks, slapping two boards together making a loud cracking noise), and using physical barriers such as bird netting or hardware cloth.

For specific information on woodpeckers, blackbirds, crows, pigeons, songbirds, and swallows refer to:

- <http://plantdiagnostics.umd.edu> > Wildlife > Animal Profiles

Chipmunks – There are no easy solutions for chipmunks, especially if a yard provides an attractive environment. Control methods include modifying their habitat, screening vents, windows, and closing ground level openings to prevent entry. A chipmunk's habitat can be made less attractive by altering the pattern of natural and ornamental plantings to provide less cover near foundations of homes. Protect newly planted bulbs with a piece of one-inch mesh chicken wire extending at least a foot beyond the edge of the bed and mulch. Use an alternate attractant for birds such as a birdbath, if spilled seed from birdfeeders attracts chipmunks.

Deer – Several approaches may need to be used for satisfactory deer control. Rotate repellents/scare devices, use fencing, and plant plants that are seldom damaged by deer. For additional information refer to:

- www.hgic.umd.edu > Publications > Online Publication FS-655 "Resistance of Ornamentals to Deer Damage"
- <http://pubs.agnr.umd.edu> > Lawn, Garden and Home > Wildlife
- FS-810 "Using Commercial Deer Repellents to Manage Deer Browsing in the Landscape"
- www.hgic.umd.edu > Publications > Online Publication EB-354-C "Managing Deer Damage in Maryland" \$3.50

- provides sources of current information on fencing and sources of supplies and repellents.

- www.naturalresources.umd.edu >University of Maryland College of Agriculture and Natural Resources Forestry and Wildlife Educational Resources>Wildlife Mgmt
- www.dnr.state.md.us/wildlife/nw.asp >”Deer Damage Management Techniques”

Mice – Control involves eliminating food sources, preventing access to dwellings (sealing holes and openings larger than 3/16 inch with hardware cloth, galvanized sheet metal, or concrete mortar), trapping, or baiting with toxic baits. Trapping using mouse snap traps or other types is the preferred method of control in homes, garages, or other structures where only a few mice are present. Bait traps with peanut butter, caramel, or chocolate. Set traps along walls, cabinets and in suspended ceilings, perpendicular to the wall with the trigger next to the wall. Leave traps unset until the bait has been taken at least once and then set. Traps are available with protective covers to prevent tampering. Various brands of anti-coagulant (slow-acting, chronic toxicants) baits are available to control mice. For toxic baits use bait stations (bait boxes) that lock to prevent tampering by children, pets, or other wildlife. Place bait stations near rodent burrows, against walls, or along travel routes. If infestations are severe, contact a professional pest control company. For additional information refer to:

- www.ianrpubs.unl.edu/epublic/live/g1105/build/g1105.pdf

Rabbits – Several methods can be used to control rabbits but fencing is the most effective. Erect 2 foot chicken wire fencing held tight to the ground or buried several inches, protect young trees with cylinders of ¼ inch hardware cloth, use odor and taste repellents, and remove excess vegetation.

Raccoons – Prevent or reduce damage by exclusion methods and eliminating food sources. Protect crops and gardens with electric fencing. Frightening techniques (aluminum pie pans, radios) are temporary control measures. No repellents are registered for raccoon control. Cap chimneys, and prevent access to attics and buildings by closing or repairing openings with ¼ inch mesh hardware cloth or metal flashing. Remove outdoor food sources and secure garbage cans. Raccoons may dig in turf for soil insects. Reseed heavily damaged areas.

Rats – Control involves eliminating all food and water sources, removing their hiding places and denying access to dwellings by sealing all openings larger than ½ inch (use metal collars, shields, hardware cloth and masonry), trapping, and baiting with toxic baits. Trapping and baiting are most effective when other food sources no longer exist. Trapping is the preferred method in homes or garages where only a few rats are present. Bait traps with fresh food such as meat, chicken, peanut butter, fish or grains. Set traps close to walls, behind objects, and in dark corners where rat activity is seen. Leave traps unset until the bait has been taken at least once and then set. To prevent tampering by children, pets, or other wildlife, place traps under a weighted

box which has two holes for the rats entrance and exit. Conceal snap traps that are set against structures by leaning boards over them or nailing the board to the structure.

Various brands of anti-coagulant (slow-acting, chronic toxicants) baits are available to control rats. If baiting above ground, use bait stations (bait boxes) that lock to prevent tampering by children, pets, or other wildlife. Place bait stations near rodent burrows, against walls, or along travel routes. If infestations are severe, contact a professional pest control company.

Rat complaints in Baltimore City can be reported to Rat Rubout Project, in the Health Department by calling 311. The property will be inspected and if a problem is detected, baiting or trapping will be provided with the homeowner’s permission. Some local county health departments, environmental health divisions provide advice on rodent prevention and control measures. They can respond to and investigate complaints to insure that problems are corrected and do not reoccur. Rat elimination and control is the responsibility of the property owner. For additional information refer to:

- <http://www.montgomerycountymd.gov/hhstmpl.asp?url=/content/hhs/license/rats1.asp>

Skunks – Feeding and burrowing by skunks can be a nuisance. Exclude skunks by sealing off all foundation openings with wire mesh hardware cloth or sheet metal. Bury fencing where skunks can gain access by digging. Eliminate outdoor food sources and secure garbage cans. Skunks may dig in turf for soil insects. Reseed heavily damaged areas. Most homeowners hire licensed nuisance wildlife control cooperators to remove skunks from under structures.

Snakes – Do not harm snakes, if possible. They are beneficial. Discourage snakes by removing firewood and debris near the home. Seal home cracks and crevices to exclude entry. Keep mulch no thicker than two inches and trim shrubbery. For more management techniques and color photos of snakes found in MD, refer to:

- <http://plantdiagnostics.umd.edu> > wildlife >reptiles and amphibians
- www.hgic.umd.edu > Publications>Online Publications>Wildlife>HG 64 “Snakes”
- www.dnr.state.md.us/wildlife/vsnakes.asp >”All About Snakes”

Voles – Control voles by trapping with mouse snap traps, modifying habitat, and vole predators (cats, hawks, owls, crows, and snakes). Keep mulch no deeper than one inch, avoid the use of landscape fabrics, mow weedy areas, and increase spacing between plantings to reduce cover. For additional information refer to:

- <http://pubs.agnr.umd.edu> > Lawn, Garden and Home > Wildlife > FS 654 “Reducing Vole Damage to Plants in Landscapes, Orchards, and Nurseries”

References:

Bollengier, R. 1994. "Woodchucks." In Prevention and Control of Wildlife Damage. Cooperative Extension Division, Institute of Agriculture and Natural Resources, University of Nebraska – Lincoln.

Henderson, F. 1994. "Moles." In Prevention and Control of Wildlife Damage. Cooperative Extension Division, Institute of Agriculture and Natural Resources, University of Nebraska – Lincoln.
Home & Garden Information Center. 1996. Maryland Master Gardener Handbook

Jackson, J. 1994. "Tree Squirrels". In Prevention and Control of Wildlife Damage. Cooperative Extension Division, Institute of Agriculture and Natural Resources, University of Nebraska – Lincoln.

Potter, D.A. Destructive Turfgrass Insects. Ann Arbor Press, 1998.

"Think Before You Trap". United States Department of Agriculture, Animal and Plant Health Inspection Services, Wildlife Services, Annapolis, MD.

"Wild Neighbors", The Humane Approach to Living With Wildlife, 1997. The Humane Society of the US.

Squirrel damage photos courtesy of Joseph Renna, www.nuisancewildlife.com

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