

WOODCHUCKS

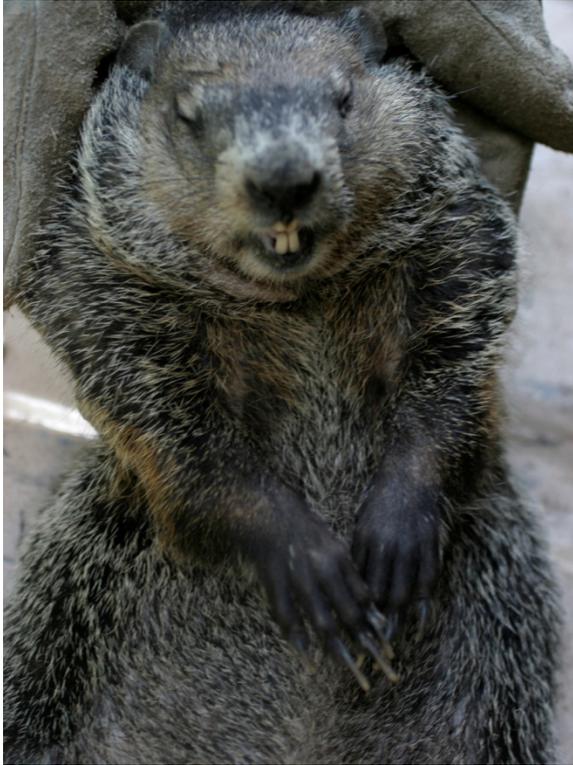


Figure 1. Woodchuck (*Marmota monax*). Photo by Stephen M. Vantassel.

OBJECTIVES

1. Explain how woodchuck behavior impacts control.
2. Communicate control options to clients.
3. Describe the risks posed by woodchucks.

OVERVIEW OF DAMAGE PREVENTION AND CONTROL METHODS

HABITAT MODIFICATION

Not recommended

EXCLUSION

Three-foot high fences with 18-inch skirts at top and buried at least 2 inches underground for gardens, porches and decks

FRIGHTENING

Scarecrows and other effigies

REPELLENTS

Predator urine for crop damage

TOXICANTS

Charcoal-based gas cartridges

Aluminum phosphide **is** a restricted use products and require certification to buy and use in Alabama through the AL Department of Agriculture and Industries

SHOOTING

.22 cal

12 gauge shotgun (#2–6 shot)

TRAPPING

Nos. 1 or 1.5 foothold

9" x 9" x 32" 2 door cage and box traps

10" x 12" x 32" single door cage or box trap

OTHER METHODS

Dogs

Flood woodchucks out of dens and into nets

SPECIES PROFILE

IDENTIFICATION

Woodchucks (*Marmota monax*) are members of the squirrel family and closely related to other species of North American marmots. They are also known as “ground hogs”, “whistle pigs.”, and gophers.

PHYSICAL DESCRIPTION

Woodchucks are usually grizzled brownish gray, but white (albino) and black (melanistic) individuals are occasionally found (Figure 1). The woodchuck’s compact, chunky body is supported by short strong legs. Its forefeet have long, curved claws that are well adapted for digging burrows. The tail is short, well furred, and dark brown. Like other rodents, woodchucks have white or yellowish-white, chisel-like incisor teeth. Their eyes, ears, and nose are located toward the top of the head, which allows them to remain concealed in their burrows while they check for danger over the rim or edge. Woodchucks are alert and scurry quickly to their dens when they sense danger, although they are slow runners.

Both sexes are similar in appearance, but the male is slightly larger, weighing an average of 5 to 10 pounds. The total length of the head and body averages 16 to 20 inches. The tail is 4 to 7 inches long.

SPECIES RANGE

Woodchucks occur throughout eastern and central Alaska, British Columbia, and most of southern Canada (Figure 2). Their range in the United States extends throughout the East, northern Idaho, northeastern North Dakota, central Nebraska, eastern Kansas, northeastern Oklahoma, and south northern Alabama.



Figure 2. Range of the woodchuck. Image by PCWD and Stephen M. Vantassel.

VOICE

When startled, a woodchuck may emit a shrill whistle or alarm, preceded by a low, abrupt “pew.” This is followed by a low, rapid warble that sounds like “tchuck, tchuck.” The call is usually made when the animal is startled at the entrance of the burrow. When threatened, tooth popping and chattering may indicate that a bite is eminent.

TRACKS AND SIGNS

The hind foot of a woodchuck measures 2 to 3 inches in length and frequently obscures the track of the front feet. Tracks may be found in sandy areas (Figure 3).

Woodchucks also can be identified by sight during the daytime activity and by finding den holes. Den holes average 10 inches in diameter. Primary holes have a dirt plume, while escape holes are clean and may be hidden. The presence of flies can signify an active den. Dens under wooden structures usually exhibit chewing damage on the structure.

Woodchucks deposit scat underground in latrines, making it a rare find.

GENERAL BIOLOGY

REPRODUCTION

Woodchucks breed in March and April. A single litter of two to six (usually four) young is produced each season after a gestation period of about 32 days. The young are born blind and hairless. They are weaned by late June or early July, and leave the nest soon after. Young frequently occupy abandoned dens or burrows. The numerous new burrows that appear during late summer are generally dug by older woodchucks. The life span of a woodchuck is about 3 to 6 years. Woodchucks usually range only 50 to 150 feet from their den during the daytime. This distance may vary, however, during the mating season or based on the availability of food.

NESTING/DENNING COVER

Woodchucks maintain sanitary den sites and burrow systems, replacing nest materials frequently. A burrow and den system is often used for several seasons. Den sites typically occur in well-drained soil and along inclines.

Woodchuck burrows are easily identified by a large mound of excavated earth at the main entrance, called a porch. The main opening is approximately 10 to 12 inches in diameter. Dens may have one to three or more entrances. Secondary entrances are dug from below the ground and do not have mounds of earth beside them. They are usually well hidden and sometimes difficult to locate. During spring, active burrows can be located by the freshly excavated earth at the main entrance. The burrow system serves as home to the woodchuck for mating, weaning young, hibernating, and protection.

The tunnel system is irregular and may be extensive. Burrows may be as deep as 5 feet and range from 8 to 66 feet in total length (Figure 4). Burrows not in

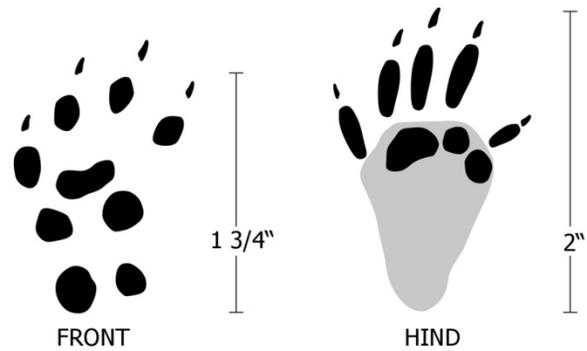


Figure 3. Woodchuck tracks. Image by Dee Ebbeka.

use by woodchucks provide habitat for rabbits, weasels, and other wildlife.

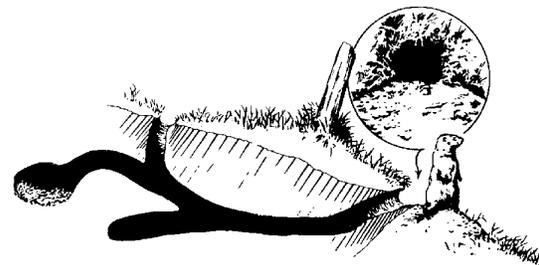


Figure 4. Schematic of a woodchuck den. Den structure varies by location. Image courtesy of PCWD.

SEASONAL BEHAVIOR

Woodchucks are among the few mammals that enter true hibernation. Hibernation generally starts in late fall near the end of October or early November, but varies with latitude. It continues until late February and March. In northern latitudes, hibernation can start earlier and end later. Males usually come out of hibernation before females and sub-adults and may travel long distances in search of a mate.

Woodchucks primarily are active during daylight. They sometimes bask in the sun during the warmest periods of the day and have been observed dozing on fence posts, stone walls, large rocks, and fallen logs close to their burrow entrance. Woodchucks are good climbers and sometimes are seen in lower tree branches.

OTHER

Primary predators of woodchucks include hawks, owls, foxes, coyotes, bobcats, weasels, dogs, and humans. Many woodchucks are killed on roads by automobiles.

HABITAT

In general, woodchucks prefer open farmland and the surrounding wooded or brushy areas adjacent to open land. Burrows are commonly located in fields and pastures, along fence rows, stone walls, roadsides, and near building foundations or the bases of trees.

FOOD HABITS

Woodchucks forage in the early morning and evening hours. They are primarily herbivores and feed on a variety of vegetables, grasses, and legumes. Preferred woodchuck foods include soybeans, beans, peas, carrot tops, alfalfa, clover, and grasses.

LEGAL STATUS

Woodchucks are considered either game or unprotected animals in most states. Check your local state laws.

DAMAGE IDENTIFICATION

DAMAGE TO STRUCTURES

Woodchuck burrows can undermine foundations of buildings, pools, and sidewalks. They may chew wood and may occasionally gnaw pipes and wires.

DAMAGE TO ANIMALS

Den holes can create dangerous conditions for horse owners and riders. Domestic animals may be bitten and/or exposed to diseases.

DAMAGE TO GARDENS AND LANDSCAPES

Woodchucks can cause significant losses to gardens and plants such as beans, lettuce, peas, carrots, cabbage, and vines. Woodchucks also feed on clover and plantain but are not known for damage to turf beyond what is incurred by den construction. Trees can be damaged severely or killed by chewing and territorial marking. Research has shown that apple production drops for trees in the vicinity of woodchuck dens (Figure 5).



Figure 5. Woodchuck gnawing to fruit tree. Photo by Robert K. Swihart.

HEALTH AND SAFETY CONCERNS

Woodchucks sometimes scare property owners through displays of aggression known as bluff charges. Healthy woodchucks will flee from determined landowners, though they will defend themselves when cornered. Pets and children should not approach woodchucks.

Dens may cause safety issues for pedestrians and wheeled vehicles, particularly on hillsides. The

excavation of dens can threaten the integrity of foundations as well.

Woodchucks rarely become infected with rabies, Lyme disease, mange, and hepatitis are concerns in some areas. A variety of ectoparasites also infest woodchucks.

DAMAGE PREVENTION AND CONTROL METHODS

INTEGRATED PEST MANAGEMENT

TIMING, ECONOMICS, AND METHODS

Woodchuck control is easiest during early spring, as they need food after a long winter hibernation, and early fall when they are actively searching for food for winter. Woodchuck complaints also tend to increase in the month of July as young disperse to find territories of their own.

HABITAT MODIFICATION

Habitat modification is not recommended for woodchuck control.

EXCLUSION

Fencing can exclude woodchucks from accessing protected areas. Woodchucks, however, are good climbers and can easily scale wire fences if precautions are not taken. Fences should be at least 3 feet high and made of heavy poultry wire or 2-inch mesh woven wire (Figure 6).

To prevent burrowing under the fence, bury the lower edge 2 inches in the ground and bend the lower edge at an L-shaped angle leading outward and bury it. Fences should extend 3 to 4 feet above the ground. Place an electric wire 4 to 5 inches off the ground and the same distance outside the fence. Bend the top 9 to 12 inches of wire fence outward at a 45° or greater angle to prevent animals from climbing over the fence. The efficacy of the fence

can be enhanced by installing an electric wire a few inches from the top of the fence. Use a UL-approved fence charger to enhance safety. Vegetation in the vicinity of any electric fence should be removed regularly to prevent the system from shorting.

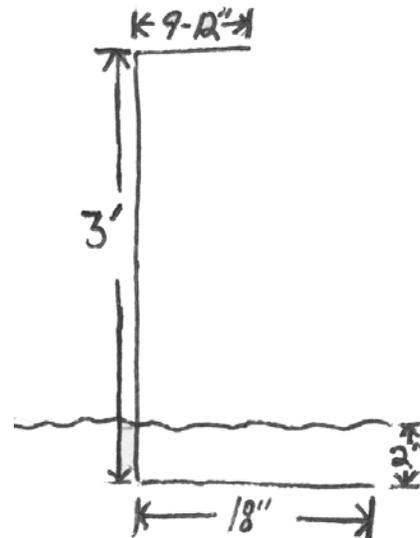


Figure 6. Fencing to exclude woodchucks. Image by Stephen M. Vantassel.

Fencing is most useful in protecting home gardens and has the added advantage of keeping rabbits, dogs, cats, and other animals out of garden areas. In some instances, a single electric wire placed 4 to 5 inches above the ground, has deterred woodchucks from entering gardens.

FRIGHTENING DEVICES

Scarecrows and other effigies can provide temporary relief from woodchuck damage. Move them regularly and incorporate a high level of human activity in the susceptible area.

REPELLENTS

Predator urine (e.g. coyote urine) has shown some evidence in reducing crop damage. Use urine with

caution unless it has been sterilized. Do not allow urine to come in contact with plants or adjacent soil.

TOXICANTS

No toxicants are registered for woodchuck control.

FUMIGANTS

A common means of woodchuck control is the use of commercial gas cartridges. They are specially designed cardboard cylinders filled with slow-burning chemicals (Figure 7). They are ignited and placed in burrow systems, and all entrances are sealed. As the gas cartridges burn they produce carbon monoxide and other gases that are lethal to woodchucks.



Figure 7. Charcoal-based gas cartridge. Photo by UNL.

GAS CARTRIDGES

Gas cartridges are a General Use Pesticide and are available from local farm supply stores, and the USDA-APHIS-Wildlife Services Pocatello Supply Depot. Directions for their use are on the label and should be read and adhered to carefully. Do not use them in burrows located under wooden sheds, buildings, or near other combustible materials because of the potential fire hazard. Gas cartridges are ignited by lighting a fuse. They should not

explode if they are properly prepared and used. Avoid prolonged breathing of fumes.

Each burrow system should be treated in the following manner:

1. Locate the main burrow opening (identified by a mound of excavated soil) and all other secondary entrances associated with that burrow system.
2. Return at nightfall to ensure woodchucks are present in the den.
3. With a spade, cut a clump of sod slightly larger than each opening. Place a piece of sod over each entrance except the main entrance. Leave a precut sod clump next to the main entrance for later use.
4. Prepare the gas cartridge for ignition and placement following the instructions on the label. Tape the cartridge to a 3-foot long stick to aid in placing the cartridge deeper into the burrow system.
5. Kneel at the main burrow opening, light the fuse, and immediately place (do not throw) the cartridge as far down the hole as possible.
6. Immediately after positioning the ignited cartridge in the burrow, close all openings, by placing the pieces of precut sod, grass side down, over the opening. Placing the sod with the grass side down prevents smothering the lit cartridge. Make a tight seal by packing loose soil over the piece of sod. Look carefully for smoke leaking from the burrow system and cover or reseal any leakages.
7. Continue to observe the site for 4 to 5 minutes and watch nearby holes, resealing those from which smoke is escaping.
8. Repeat these steps until all burrow systems have been treated in problem areas. Burrows can be treated with gas cartridges at any time. This method is most effective in the spring before the young emerge. On occasion, treated burrows will be reopened by another animal reoccupying the burrow system and retreatment may be necessary.

Troubleshooting: Fumigation is most effective when the soil is wet, such as after a rain because the water helps make the soil less porous. Fumigate after dark or when woodchucks are witnessed entering the den to increase the likelihood of fumigating an occupied den.

ALUMINUM PHOSPHIDE

Aluminum phosphide is a **Restricted Use Pesticide** and can be applied only by a **certified pesticide applicator**. Certification through the Alabama Department of Agriculture and Industries is required to buy and use aluminum phosphide in Alabama. The regulations for aluminum phosphide are restrictive. Always read and follow label instructions.

Place two to four tablets (or 10 to 20 pellets) deep into the main burrow. Plug the burrow openings with crumpled newspapers and then pack the openings with loose soil. All burrows must be sealed tightly but avoid covering the tablets with soil. The treatment site should be inspected 24 to 48 hours later and opened burrows should be retreated.

Aluminum phosphide in the presence of moisture in the burrow produces hydrogen phosphide (phosphine) gas. Therefore, soil moisture and a tightly sealed burrow system are important. The tablets are presently approved for outdoor use on non-cropland and orchards for burrowing rodents. Tablets cannot be used within 100 feet of any occupied or potentially occupied building (human or animal). Storage of unused tablets is critical; they must be kept in their original container, in a cool, dry, locked, and ventilated room. They must be protected from moisture, open flames, and heat.

SHOOTING

Where safe and legal, .22 or .17 caliber rimfire firearms can be effective if the animal is out of the den. Shotguns, using #2-6 shot, can also be used. Most locations do not allow the discharge of a firearm near a dwelling or within municipalities. In

general, shooting woodchucks is not recommended. Alabama Wildlife and Freshwater Fisheries regulations allow individuals to shoot and remove one woodchuck through the depredation process for each incident in which they cause damage to structures, crops, landscape, or other property.

TRAPPING

Trapping woodchucks requires a permit from the Division of Wildlife and Freshwater Fisheries.

CAGE/BOX TRAPS

Cage traps sized 10" x 12" x 32" with a single door can be baited; 9" x 9" x 32" two-door traps can be used in blind sets. Bait traps with apple slices or vegetables such as carrots and lettuce, and change baits daily. Soil containing woodchuck odors makes an effective lure also. Store material in zip lock bag. Wear gloves when scooping soil and spread it in the rear of trap. Locate traps at main entrances or major travel lanes. Place guide logs on either side of the path between the burrow opening and the trap to help funnel the animal into the trap. Check all traps as required by law.

Place blind sets after dark. If that is not possible, add a baited-cage trap in case the woodchuck was outside the den when the blind set was made.

FOOTHOLD TRAPS

Foothold traps also may be used to reduce woodchuck damage, especially in or near buildings. Before using foothold traps, consult your state wildlife department representative for trapping regulations. Use a No. 1 to 1.5 size foothold trap. Woodchucks are strong animals and traps should be in good condition and swiveled, and securely staked using 18-inch long stakes in cross position. Use stakes only when you are certain that underground utilities are not present.

HANDLING

RELOCATION/TRANSLOCATION

Possessing a live woodchuck is illegal without a permit from the Division of Wildlife and Freshwater Fisheries. Translocating woodchucks outside of the county or across any river system is illegal in Alabama. Relocation is not recommended unless the woodchuck is being rehabilitated. With appropriate permits and where applicable, release woodchucks at least 10 miles from site of capture in mixed habitat of fields and woods. Morning releases are preferable in order to give the woodchuck time to orient itself before nightfall.

EUTHANASIA

.22 rimfire caliber firearms are the first choice for many operators where shooting is allowed and after safety concerns are addressed. The shot should be from close range and directed to the head. Operators often opt to use "low" power ammunition such as .22 caliber "CB cap" or "Short" rounds. Follow all firearm safety instructions at all times. If you are not familiar with firearms, become so through a certified firearm safety course before attempting.

Woodchucks also can be euthanized by lethal injection or carbon dioxide gas.

DISPOSAL

Dispose of any animal remains in a safe manner away from human development, creeks, other water sources and roadsides.

OTHER CONTROL METHODS

Dogs that display territorial behavior may be effective in keeping woodchucks away. Commercial orchards often use dogs for groundhog and deer

control, contained either by permanent and/or radio fencing.

Woodchucks can be removed from dens through flooding. Use this technique in dens that are not adjacent to structures (Figure 8). The den entrance may be distant from the structure but the tunnel and ultimate resting area may be adjacent to the foundation.

First, locate all the den entrances. Choose one you will be working with and protect other entrances with traps. This technique only works when you are certain the den has a woodchuck; use it only when you have witnessed a woodchuck entering the hole or after dark.

Set up the equipment. You will need cage, hand net and garden hose. The cage should be open and ready to receive the netted woodchuck. Headlamps are helpful.

Cover hole with a hand net and insert the hose through the net and deep into the den. Turn on the water at full pressure. Listen for when the sound of rushing water stops. When it does, continue to pull the hose out till the rushing begins again. Keep flooding until the woodchuck enters the net. Be patient, as woodchucks tend to burrow in well-drained soil. Noise will cause the woodchuck to stay in the den longer. It is not uncommon for flooding to take 15 minutes or longer. When the woodchuck is netted, place it in the cage and collapse the tunnel.



Figure 8. Woodchuck captured by a hand-net following flooding. Photo by Stephen M. Vantassel

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RESOURCES

KEY WORDS

Wildlife, wildlife control, damage management, nwco, woodchuck

ON-LINE RESOURCES

<http://pcwd.info>

<http://icwdm.org>

DISCLAIMER

Implementation of wildlife damage management involves risks. Readers are advised to implement the safety information contained in Volume 1 of the National Wildlife Control Training Program.

Some control methods mentioned in this document may not be legal in your location. Wildlife control providers must consult relevant authorities before instituting any wildlife control action. Always use repellents and toxicants in accordance with the EPA-approved label and your local regulations.

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