



MT9617 Agriculture

Coping With Snakes in Montana

by James E. Knight, MSU Extension Wildlife Specialist

Snakes are one of the most feared animals in Montana, but people's fear of snakes comes from lack of understanding and superstition. Snakes are not mysterious at all, and these fascinating creatures don't deserve the anxiety many people feel about them. Of the 10 snake species found in Montana, only one, the rattlesnake, is poisonous and potentially dangerous.

There are many benefits from having some snakes around the yard or garden. Snakes are one of nature's most efficient mousetraps, killing and eating a variety of rodent pests. While snakes will not eliminate pests, they do help keep their numbers in check. Some harmless snakes eat other snakes, including poisonous ones.

Although you wouldn't want a poisonous snake around your home, snake venom can be beneficial and has been used in developing a variety of human medicines. One type of high blood pressure medicine was developed using information based on chemicals in snake venom. Researchers are conducting studies using snake poisons to develop treatments for blood and heart problems. Snake venom is also being investigated as a control for some types of harmful bacteria.

Snake Biology

Snakes are ectotherms, meaning they regulate their body temperature by absorbing or giving off heat. Because their body temperature is affected by environmental temperatures and varies with surrounding conditions, snakes become inactive during very hot seasons (aestivation) and very cold seasons (hibernation). During these periods of inactivity, snakes may go for several weeks without eating. Because they are cold-blooded, snakes must rely on their behavior to regulate their body temperature. During the hot part of the day, snakes move to shaded areas, and on cool days they sun themselves in warm

open areas. Snakes often seek out paved roads where they are attracted by the heat from the road surface.

Because snakes have a backbone, they are classified as vertebrates. Although fish, birds and mammals, including people, are also vertebrates, the snake's skeletal system is unique. Snake bones are very light, and the skeleton is very flexible. The lower jaw and skull are connected by a piece of stretchy material (ligament) that allows the snake to open its mouth very wide and move both jaws independently. Thus, snakes can swallow prey much larger than their head by "walking" their mouth around the food from side to side in a forward movement.

Snakes are specialized animals, with no legs, ears or eyelids. There are no "walking" snakes. Rarely, the sex organs of a snake may protrude from the anal plate area and be confused with legs.

Snakes use their forked tongues to "smell" or "taste," constantly flicking them to pick up any air-borne particles and odors. Once a snake detects an aroma, it inserts its tongue into two holes on the top of its mouth (Jacobson's organ), where the smells are interpreted by its brain. If the snake detects food and is hungry, it will pursue the animal.

Contrary to popular belief, snakes are not slimy; in fact, they feel dry to the touch. Snake scales and skin help retain body moisture. Snakes shed their skin and eye coverings together.

Soon after temperatures rise in the spring, snakes come out of hibernation and mate. Some snakes lay eggs in a damp, protected area where they will hatch in about two months. Other snakes hatch eggs inside their bodies. Once the young have been hatched or born, parents do not care for their offspring because they are able to take care of themselves.

All snakes are predators, and many are fussy eaters. Gopher snakes (bullsnakes) eat rodents, birds, eggs and some lizards. Rubber boas feed on other snakes, mice, young birds and lizards, plus many worms, slugs and insects. Some small snakes, like the smooth green snake, eat insects (especially daddy-longlegs), while others eat earthworms, slugs and salamanders. Toads and mice are the favorite foods of hognose snakes.

When people encounter a snake, they often corner it, causing the snake to hiss loudly, open its mouth in a threatening manner, coil up and strike at the individual— or bluff by advancing toward the intruder. These behaviors, intended to scare off the intruder, lead to a common misconception that snakes charge or attack people. In most cases, a snake advances only if it feels threatened. Usually it crawls away if it can reach cover safely. A snake cannot reach around and grab its tail to roll away from predators -- there are no "hoop" snakes. If you encounter a snake, leave it alone.

Controlling Snakes Around Your Home

Various home remedies, including moth balls, sulfur, lime, cayenne pepper, sticky bird repellent, coal tar and creosote, gourd vines and musk from king snakes, have not proved effective in deterring snakes. No fumigants or poisons are registered for snake control. Although there are chemicals on the market that claim to repel snakes, most scientific investigations have found them ineffective. The only efficient method of discouraging snakes is to modify the environment so they find it unattractive.

Snake Habitat

Snakes often live in cool, dark places where food is abundant. Likely places to find snakes around homes include:

- Firewood or haystacks directly on the ground.
- Old lumber, rock or junk piles.
- Gardens and flower beds with heavy mulch.
- Untrimmed shrubs and bushes growing next to a foundation.
- Unmowed and unkempt lawns, abandoned lots and fields with tall vegetation.
- Pond and stream banks with abundant debris or trash.
- Cluttered basements and attics with rodent, bird or bat problems.
- Feed storage areas in barns and haylofts where rodents may be abundant.

Modifying the Environment Around Your Home

The environment around a home can be made less attractive to snakes by removing potential snake shelters (usually cool, dark, damp hiding places) and food sources (rodents).

Lawns and fields that are kept clean and closely mowed are less attractive to snakes than areas with tall grass, weeds, brush and junk. Remove other snake hiding places such as old boards lying on the ground, rock and junk piles and trash piles. Trim shrubs and trees so limbs hang no lower than 12 inches from the ground. Stack firewood away from the home on a rack that sits at least 12 inches from the ground.

Keeping the yard clean also removes habitat for rodents, a favorite snake food. Other suggestions for reducing rodents include placing garbage in sealed trash cans (not bags) away from the house. If you feed pets outside, keep all dog and cat food cleaned up after each feeding and store feed in a steel trash can so it is unavailable to rodents

Keeping Snakes Out of Your Home

Snakes enter buildings in search of cool, damp, dark areas, or places where rodents and insects abound. To prevent snakes from entering your home, check the foundation for cracks and openings 1/4 inch or larger. Use mortar to plug holes in poured concrete, concrete block or brick foundations.

Use 1/8-inch hardware cloth or sheet metal to seal holes and cracks in wooden buildings. Seal cracks and openings around windows, doors, electrical and plumbing pipes, and wiring with caulk or injectable foam.

If you have an open septic tank or sump pump drain outside, cover the opening with 1/4-inch hardware cloth. Be sure to check it periodically to ensure the wire does not interfere with drainage.

If you have young children and live in an area where poisonous snakes are common, you may want to invest in a snake-proof fence (Figure 1). These fences are expensive to construct, so fencing an entire yard is not practical; however, you can enclose a small area where young children can play safely.

Construct snake-proof fences of 1/4-inch hardware cloth at least 36 inches wide. Bury the lower six inches underground, and slant the fence outward at a 30-degree angle. To make the fence more sturdy, place supporting stakes inside the fence and attach wires from the fence to the stakes.

Make sure all gates fit tightly; they should open to the inside because of the outward slope of the fence. Be sure to keep grass and weeds around the fence mowed close to the ground to prevent snakes from using them to crawl over the fence.

Removing Snakes from Inside a Building

Occasionally homeowners encounter a snake inside the home, usually in a basement or crawl space. Snakes are attracted to these areas by warmth on cold days and cool shade on hot days.

You can increase your chances of capturing a snake in the basement by placing rumped, damp cloths covered by a dry cloth in areas where snakes have been seen. You can then remove the whole works (cloths and snakes) or capture the snakes individually and remove them. If you are not afraid of snakes, the best way to remove non-poisonous snakes is to sweep them into a bucket or large garbage can with a broom. The snakes can then be released in a safe place two miles or more from human dwellings.

NOTE: Exercise extreme caution when moving in a crawl space, especially if venomous snakes have been seen in the area—a face bite can be very serious.

A face-to-face encounter with even a non-poisonous snake can be an unpleasant experience.

Another effective method of capturing snakes inside a home, under porches, in crawl spaces or under mobile homes is to use a glueboard purchased from an agriculture supply or hardware store. (Glueboards are often used to trap mice or rats.) Most small snakes can be captured using a single glueboard placed against a wall, away from pipes or other objects a snake could use for leverage to escape.

To capture larger snakes, make a large glueboard with purchased glueboards (Figure 2). Construct the trap using a 16 x 24-inch piece of 1/4-inch plywood. Drill a 3/4-inch hole in one corner of the board. When you need to remove the board, use a hook on the end of a long stick to grab the corner through the hole. Fasten or securely glue two to four glueboards along one side of the plywood board. This type of trap, when placed against a wall, is capable of capturing snakes up to five or six feet long. This method takes advantage of the snake habit of crawling along the edge of things.

Use glueboards only indoors or under structures where children, pets and other wildlife cannot reach them—the glue is quite messy and hard to remove. Use common cooking or vegetable oil to remove animals from the glue. Once the unwanted guests have been removed, be sure to close any holes or entrances so more snakes do not enter.

Remember, snakes are an important part of our natural world. The best approach to managing snake problems, whenever possible, is to leave these animals alone.

Suggested Reading

Behler, J.L., and F.W. King. 1979. *The Audubon Society Field Guide to North American Reptiles and Amphibians*. Alfred A. Knopf, New York, 743pp. This guide uses quality color photographs to illustrate each snake, usually with some background habitat included. Photographs don't always present an animal in the best position for identification, but generally this is not a problem. The text includes descriptions of each species along with good life history information and range maps.

Reichel, Jim and D. Flath. 1995. Identification of Montana's Amphibians and Reptiles. Montana Outdoors. May-June. Montana Dept. Fish, Wildlife and Parks, Helena, MT. This is an excellent publication with color photos, ranges and biological information about all of Montana's snakes.

San Julian, G.J., and D.K. Woodward. 1985. What You Wanted to Know About All you Ever Heard Concerning Snake Repellents. Proc. Eastern Wildlife

Damage Control Conference 2:243-248. A scientific but readable article describing studies of home remedies as snake repellents; none were effective.

Snakes of Montana

The **Western rattlesnake** is Montana's only poisonous snake. It has a triangular head, blunt nose, narrow neck, stout body and a tail that ends in a rattle. Rattlesnakes are found in most of Montana and are 15 to 60 inches long.

The **rubber boa** looks and feels like rubber. This small stout snake (12 to 18 inches long) has small eyes, a blunt tail and is distributed throughout western Montana.

The **racer** is a long (20- to 65-inch), slender snake found throughout Montana. The belly is whitish to pale yellow with the back of adults varying from greenish grey to brown or blue.

The **Western hognose snake** is heavy-bodied and can reach 32 inches long. It has an upturned nose and its back is yellowish to gray-brown with three rows of dark brown blotches running longitudinally.

The **milk snake** is highly recognizable with a series of red-orange saddles or rings that are bordered by black rings and separated by white or yellow rings. This medium-sized, slender snake can reach lengths of 42 inches. It is rarely found in Montana.

The **smooth green snake** is rare in Montana and only reported in the far northeast. About 26 inches long as an adult, it is bright green in color above and whitish below.

The **gopher snake** or **bull snake** is very common in Montana. It can reach a length of seven feet and is readily identified by a series of large black or brown blotches that run down the back, and another series along the sides.

Montana has three **garter snake** species which can be identified by three yellow stripes running the length of the body. The stripes vary from yellow to orange-yellow to green-yellow along the back. The adults are 16 to 43 inches long and are found throughout the state.

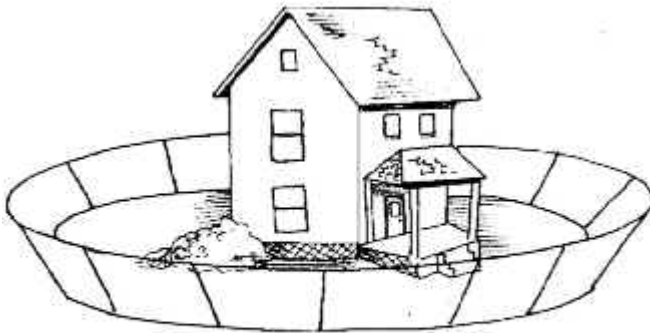


Fig. 1. Though fairly expensive, a snake-proof fence can keep snakes from entering an area.

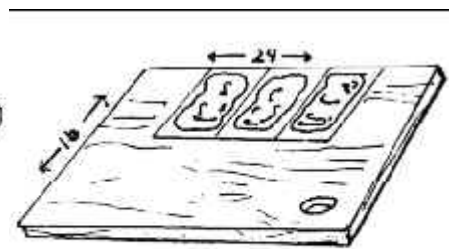


Fig. 2. Use a glueboard trap to catch larger snakes.



The programs of the MSU Extension Service are available to all people regardless of race, creed, color, sex, disability or national origin. Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Charles Rust, Acting Vice Provost and Director, Extension Service, Montana State University, Bozeman, Montana 59717.

File under: Wildlife
B-1 (Non-game Animals)
Printed Jan. 1997 (1952000197ST).