

## Controlling Raccoon and Opossum Damage

Stephen Vantassel, Extension Project Coordinator-Wildlife Damage Management  
 Scott Hygnstrom, Extension Specialist-Wildlife Damage Management  
 Dennis Ferraro, Extension Educator—Douglas-Sarpy County  
 Sam Wilson, Furbearer Biologist—Nebraska Game & Parks Commission

This NebGuide provides information about raccoons and opossums, the damage they cause, and ways to prevent and control damage problems.

Raccoons and opossums are nocturnal, medium-sized terrestrial mammals that exist throughout Nebraska. They can damage lawns and gardens, scatter trash, invade buildings and injure livestock.

### Raccoon Facts



Figure 1. Raccoon on shingled roof.

Raccoons, with their black bandit mask and black- and brown-banded tail, are well known to Nebraskans (Figure 1). The word “raccoon” is derived from Native American words “arakum” or “aracoun,” meaning “he scratches with his hands.” Adult rac-

coons (*Procyon lotor*) typically are 26-40 inches long (nose to tip of tail). Their weight can vary dramatically as they fatten up in preparation for winter, but they usually weigh 7-35 pounds. On rare occasions, raccoons weigh up to 50 pounds. Raccoons breed in January through March. Mating behavior is quite active and includes much screeching and growling. Nine weeks later, females give birth to 2-5 young. Males do not assist in rearing young and may kill any young encountered. Females remain with their young throughout the summer and fall. The family unit breaks up with the new mating season.

Raccoons do not construct their own dens but will use abandoned dens, hollow trees, crawl spaces, storm drains, attics, and chimneys (Figure 2). Raccoons have been known to tear through



Figure 2. Raccoons can easily enter buildings through unsecured attic vents.

a shingled roof to establish a den in an attic. Raccoons usually need only a 4- to 6-inch diameter hole to enter. Smaller openings are often enlarged. Raccoons are very strong and have tremendous dexterity in their front paws. Despite their size, raccoons are exceptional climbers, able to scale trees, chimneys, and downspouts.

Raccoons are omnivores, enjoying a diet ranging from eggs, carrion, food scraps, corn, crayfish, bird seed, worms, amphibians, pet food and more. While extremely harsh weather will cause them to remain in their dens, raccoons do not hibernate.

### Opossum Facts

Opossums (*Didelphis virginiana*) have white to gray coloration in their fur, grow to the size of housecats and weigh around 10 pounds (Figure 3). Their pointed face and rat-like tail lead many people to consider them to be oversized rats. Opossums, however, are not rodents, but marsupials which, like kangaroos, have pouches and carry their young with them from an early age. Before the arrival of European settlers, opossums lived only in Nebraska’s extreme southeastern corner. Today, opossums are common throughout eastern Nebraska. In the Sandhills and Panhandle regions, they are generally restricted to major waterways.



Figure 3. Opossum.

Opossums mate twice a year, in mid-January through February and July through August. Litters typically average 7-10 young but can include up to 17. Partially-developed opossums are born 13 days after mating, then migrate to the female’s pouch to continue to grow for several more weeks. In 6 to 8 weeks, the young leave the mother’s pouch and begin to ride on her back or tail. They are weaned at three months and disperse about one month later. Adult females mate soon after the first litter is weaned. Young from the second litter are weaned and on their own by September or October. The young are capable of reproducing at six months of age, but usually don’t until the year after they are born.

Opossums are omnivores, but prefer insects, carrion and fruit. Like raccoons, opossums will use existing dens rather than build their own. They are capable climbers but prefer to climb trees rather than structures. Winter weather is particu-

larly hard on opossums as they frequently suffer frostbite to their tails and ears.

### Economic Importance

Raccoons and opossums are valued for their meat and fur by Nebraska's hunters and trappers. Many enjoy watching them as they scurry through a backyard or seeing their footprints on a muddy stream bank. However, there are times when these beloved species conflict with human interests and safety.

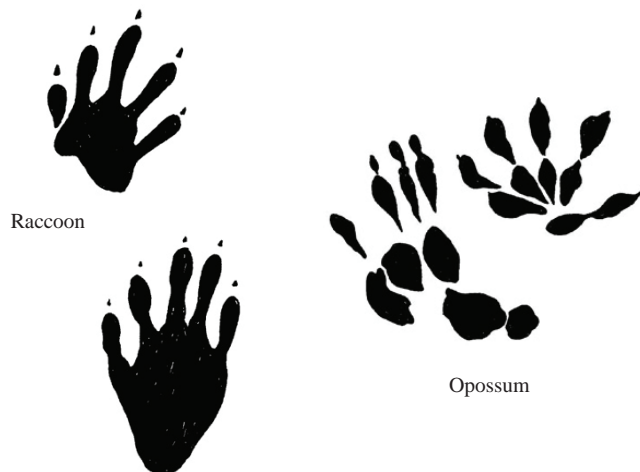
### Damage Identification

Signs found at the damage scene will help you identify the species causing damage. It is best to look at all the information rather than try to make an identification based solely on one piece of evidence.

Damage caused to crops and livestock can be very difficult to identify with a specific species. Sometimes, one animal may kill a chicken only to have another animal feed on the remains. Identification can be assisted through four primary means. First, investigate the manner used to gain access to the area. Did it require climbing? While raccoons and opossums will climb or squeeze under or through a fence, they usually will avoid digging extensively to gain access. If structures are involved, carefully check for openings. Opossums need an opening that is at least 3 inches wide, while raccoons need at least 4. Carefully investigate trees that could be used as "bridges" to the roof line. Look for scratches or brown smudge marks on the tree or building where the animal has climbed (*Figure 4*). Second, were footprints left behind? Both species have distinctive paw prints (*Figures 5 and 6*). Third, were any feces left behind?



**Figure 4.** Brown smudge marks and fine scratches on a vertical surface are key signs of raccoon use.



**Figures 5 and 6.** Raccoon paw prints (left) in a slow walk pattern. Note the "hand-like" features of the prints. Opossum tracks (right). Note the distinctive "thumb" of the hind foot."

Raccoon and opossum feces will generally be cat-sized and filled with remains of their varied diet. Raccoon droppings can be easily identified by raccoon's tendency to defecate in the same place, called a toilette. Finally, did the damage occur at night? Both animals are nocturnal. Raccoons, rarely opossums, damage turfgrass in search of worms and grubs. Unlike skunks, which create precise cone-shaped depressions when digging, raccoons will roll up or shred the sod in search of food.

Raccoons sometimes decide to take up residence in chimneys that are infrequently used. Signs of raccoon presence include the sounds of chirping and thumping emanating from the chimney and smudge marks along the downspouts.

Raccoons are not efficient predators—poultry are usually mauled with a significant amount of bruising, torn skin and chewed feathers. Raccoons typically open one end of an egg and lick out the contents, leaving much of the egg shell intact. Raccoons damage field corn by climbing the stalks, breaking them down, peeling the husks back, and chewing the milk-stage kernels from the ears. Damage to sweet corn can be particularly frustrating because it is typically extensive and occurs the night before you plan to harvest.

### Controlling Damage

#### Habitat Modification

Protect property by removing as many potential food sources as possible. Trash cans, preferably metal, should have tight-fitting lids that remain attached even if tipped over. Loose lids can be secured with bungee cords or wire. The best solution is to locate trash containers inside secure buildings. Care should be taken to use only plant and vegetable matter (no meat, eggs, fats, or oils) in compost piles to avoid attracting raccoons, opossums, skunks, and other scavengers. Avoid leaving food and water out overnight for pets. Pen free-ranging poultry at night in fenced, predator-proof runs. Avoid planting sweet corn patches near creek bottoms or other wooded areas.

Since both raccoons and opossums eat birdseed, hang birdfeeders on a wire between trees or on a baffled pole to prevent raiding. Reduce the amount of seed that falls to the ground by avoiding the use of mixed seed (use one type of seed per feeder) and using feeders that recapture fallen seed. Application of grub control insecticides is only effective if grubs are controlled prior to damage getting started.

#### Exclusion

Raccoons, being stronger, are more difficult to exclude than opossums (*Figure 7*). The recommendations that follow will focus on excluding raccoons because if raccoons are excluded, opossums will be too. Keep structures in excellent condition. Before making any repairs, make sure the area is not being used by wildlife. To prevent separating the mother from her young, never make repairs unless certain the opening is not still being used by wildlife. To learn how to determine if a hole is active visit <http://icwdm.org/Inspection/techniquepaperhole.asp>. Following this advice will prevent further structural damage caused by the mother attempting to reclaim her young. Replace rotten wood and cover gaps between boards and surfaces before animals discover them. Whenever appropriate, fill gaps with insulation or expanding foam to prevent air movement. It is believed that warm air escaping through the cracks attracts wildlife seeking to establish a winter den. Use high-quality materials when making repairs. Preferred repair materials include 10-gauge 1/4-inch wire mesh, aluminum flashing, and solid 1/2-inch wood/plywood. Fasten materials securely. Do not underestimate the strength of a raccoon. A helpful motto when making repairs is "strength before beauty."





**Figure 7.** A raccoon made a home in this chimney after breaking through this “home-made” chimney screening. Non-professional screenings also may become packed with snow or ice thereby forcing toxic exhaust gases back into the home.

Secure crawl spaces below sheds, porches, and decks using 1 inch x 1/2-inch galvanized hardware cloth. Bury the mesh at least 4 inches below the soil and create a 12- to 18-inch skirt under the soil to discourage digging. Some suggest digging down at 12-24 inches with a 12-inch perpendicular skirt. Consult Diggers Hotline of Nebraska, 800-331-5666, before initiating any digging. If aesthetics are a concern, consider painting the mesh with flat-black paint. Install lattice over it to reduce visibility.

Gardens and crops are more difficult to protect due to the climbing abilities of these two species. A two-strand electric fence with wires at 4 inches and 12 inches off the ground will check animal entry. Ribbon-type electric fence wire (Polytape) will work as well. Employ automatic timers to turn the fence on at dusk and off at daybreak to increase safety and lower electric use. If the garden is already fenced, a single strand of electrical wire near the top of the fence protruding 3 inches outward on outrigger insulators will prevent access. Fences can also be used to prevent raccoons grubbing in turf.

### Repellents

Several repellents are registered for raccoons. None are registered for opossums. Repellents are relatively expensive and provide only short-term protection. Precipitation and plant growth often require reapplication of the repellent to maintain effectiveness. Be sure to read label directions before applying repellents to plants destined for consumption. When foods are in short supply, such as in winter, repellent efficacy usually declines. Avoid using electronic repellent devices or moth balls as their effectiveness on repelling raccoons or opossums has not been demonstrated. An up-to-date listing of registered repellents can be found at <http://www.kellysolutions.com/ne/pesticideindex.htm>

Professional wildlife damage controllers have reported that products made from male raccoons' and coyote's urine have been effective in getting females and young to relocate. Unfortunately, these products are not registered with the U.S. Environmental Protection Agency (EPA) and have not undergone scientific review.

### Trapping

Sometimes trapping is the only cost-effective way to control raccoon and opossum damage. Trapping involves a major time commitment. Traps must be checked daily. The best time to check the traps is in the morning. However, checking twice a day (morning and evening) is recommended as it allows you to release any non-target animals caught during the day.

Cage or box traps should be well built and have minimum sizes of 10"x10"x32" for single-door traps and 10"x10"x42"

for two-door traps. Set traps where raccoons and opossums frequent, preferably in areas away from public view and shielded from direct sun to reduce capture stress. Make sure traps rest on level ground to avoid premature triggering due to wobbling as the animal enters. Secure a disposable, towel-like cloth that is large enough to cover the top and sides of at least 50 percent of the trap. This cloth will protect the animal and bait from the elements and shield you from potential skunk spray if a skunk is captured. Never place traps on or within 12 inches of anything you consider valuable. Trapped animals will often reach through the mesh, grab and destroy anything they can reach, including, siding, shingles, wires, and grass. Placing the trap in the middle of a sheet of 1/4-inch wire mesh that is 12 inches larger than the trap's footprint will protect grass from significant damage. Staking or anchoring a trap will also prevent the raccoon from being able to move the trap by crawling. Effective baits include sardines, dry and moist cat food, table scraps and fish oil. Use sweet baits, such as molasses, honey, marshmallows, or strawberry sugar wafers to reduce the risk of catching domestic cats and skunks. Traps set on the ground run the risk of capturing skunks. Visit <http://icwdm.org/wildlife/skunk/skunkrelease.asp> to learn how to release skunks before initiating your trapping program.

Improve trapping success by increasing the number of traps used. Vary the baits used with your traps to increase the likelihood of the animal finding an appealing meal. Some trappers recommend covering the trap floor with grass and soil to reduce an animal's apprehension when entering the cage.

Footholds, specialty traps, and body-gripping traps are also effective in capturing raccoons and opossums. However, these tools are best left to those with experience and training in their use. Contact the Nebraska Game and Parks Commission for opportunities to obtain needed training or a list of qualified trappers in your area.

If the animals cannot be released within 100 yards of the capture site, they should be euthanized. Written permission is required from the Nebraska Game and Parks Commission to euthanize raccoons and opossums unless you have a furharvest permit and it is during the furharvest season. Farmers and ranchers are allowed to destroy or have someone else destroy raccoons and opossums that are causing agricultural damage on their property. These species may be taken for damage control any time of year and no permit is needed. Check with local authorities for regulations involving trapping and euthanasia within municipalities. For detailed information on various euthanasia techniques, visit <http://icwdm.org/wildlife/euthanasia/default.asp>. Handle carcasses with thick leather gloves to reduce the risk of being scratched and exposed to animal fluids and parasites, such as fleas and ticks. For additional protection, wear latex or vinyl gloves inside the leather gloves, wash hands, and use insect repellent. Carcasses can be disposed of in four different ways: above ground, individual grave, incineration, and licensed landfill. Further disposal information can be obtained at <http://icwdm.org/wildlife/carcasses.asp>.

### Shooting

Landowners can shoot raccoons and opossums that are causing significant damage to their property, provided that shooting is in season, legal, and safe in their area. Most municipalities do not allow the discharge of firearms within their defined limits. Landowners suffering damage should consider having hunters help reduce the number of raccoons in the immediate area. Opossums are not usually hunted as they are considered a less desirable game species. Hunters use dogs or calls to find raccoons. Small caliber rifles (.22) are

**Table I. Facts related to diseases carried by raccoons and/or opossums.**

<i>Disease</i>	<i>Host Species</i>	<i>Typical mode of transmission</i>	<i>Susceptible</i>	<i>Prevention</i>
Rabies	Both	Bite, scratch	Mammals and humans	Vaccinate animals and avoid contact with wildlife
Distemper	Raccoon	Droplet, direct contact	Unvaccinated animals	Vaccinate animals
Roundworm	Both, but primarily raccoon	Ingestion of material contaminated with worm eggs	Everyone, especially children	Avoid raccoon latrines
Equine Protozoal Myeloencephalitis	Opossum	Ingestion of forage contaminated with feces	Horses	Exclusion and opossum control

Additional information on these and other diseases can be obtained at <http://icwdm.org>

very effective for these species and will cause less harm to the fur and meat than other firearms. Follow all hunting laws and safe hunting practices. The Nebraska Game and Parks Commission can provide additional information.

### Toxicants

No toxicants or fumigants are registered for raccoons or opossums in Nebraska.

### Raccoons in Chimneys

If raccoons are residing in your chimney, secure the damper and ash cleanouts so that they cannot be opened. Do the same for all the fireplaces in the home. You may then wait until the young grow enough to leave (typically 6-8 weeks) or hire a qualified professional to remove the raccoons. Tips on finding a qualified professional can be found at <http://icwdm.org/VendorsService/default.asp>. Some homeowners have placed a loud radio in the fireplace to evict the raccoon. Before employing this technique, be sure that the damper is securely closed and all other unoccupied flues and attic vents are properly secured as the raccoon may just move to a quieter location in your home. Be patient. It can take several days for the raccoon to decide to move on. Install professionally manufactured stainless steel caps over all flues to prevent future problems.

Once the raccoons have vacated and the fireplace and flue are structurally sound, set a fire to cleanse the fireplace and flue. Let it burn for at least four hours. Do not leave the fire unattended. If having the chimney cleaned, do not allow the vacuum cleaner to vent inside your home as it may spread raccoon roundworm eggs throughout the room.

### Health and Safety

Raccoons and opossums present a variety of safety and health concerns. Both species can bite, scratch and harbor parasites, such as fleas and ticks. No matter how cute or in need of help an animal appears, maintain your distance. Wildlife that appear to be injured, trembling, seemingly lost, aggressive, active in the daylight or have bitten or scratched people, pets or livestock should be removed by law enforcement or animal control officers. Many people think opossums are sick or injured when they don't move when approached. When frightened, opossums will often just "play dead" or will hunker down, baring their teeth in a menacing manner. Opossums also can leak an oily substance that smells remarkably similar to skunk spray. In these circumstances, remove people

and pets from the area and give the opossum time to move on. If the opossum does not leave in 24 hours, then assume it is sick/injured and have it removed by law enforcement or animal control officers.

*Table I* contains facts related to diseases carried by raccoons and/or opossums.

### Integrated Pest Management

Prevention is by far the most effective method of controlling potential damage from wildlife. Homeowners should cap chimneys; keep structures in good repair; install mesh over vents; trench-screen decks, sheds, and crawl spaces; and reduce potential food sources. When a problem does arise, a combination of methods may be more effective than relying on any one method for controlling raccoon or opossum damage. Most problems with these species in urban areas usually involve one or two troublesome animals, which can be controlled often with habitat modification, fencing or exclusion, trapping, and repellents. Non-urban damage situations may involve larger populations over greater areas, and can be dealt with by habitat modification, repellents, trapping and shooting. Finally, readers should continue to maintain their property and fences to prevent future problems.

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Reference to commercial products or trade names is made with the understanding that no discrimination is intended of those not mentioned and no endorsement by University of Nebraska–Lincoln Extension is implied for those mentioned.

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