

Foxes

Prepared by the National Wildlife Control Training Program. <http://WildlifeControlTraining.com>
 Researched-based, certified wildlife control training programs to solve human – wildlife conflicts.
 One source for training, animal handling and control methods, and wildlife species information.



Figure 1a. Red fox (*Vulpes vulpes*). Photo by Di Laubenstein, US Fish and Wildlife Service (USFWS).



Figure 1b. Gray foxes (*Urocyon cinereoargenteus*). Photo by Brandon M. Jones.

Species Overview

Conflicts

Foxes occasionally prey on small pets and fowl. They can damage turf through digging and may take up residence under sheds and porches.

Legal Status

In South Carolina, foxes are legally classified as a furbearer and can be taken by hunting

or trapping during the open season. The season for trapping these animals is December 1 through March 1. Hunting season is Thanksgiving Day through March 1 on private lands with a valid hunting license. Anyone planning to trap foxes should be familiar with the regulations which govern this activity. Information on these regulations can be obtained online at: <http://www.dnr.sc.gov>.

A nuisance fox can also be taken year-round with a **Depredation Permit**. A depredation permit is not required when controlling nuisance furbearers within 100 yards of a property owner's residence. This permit is issued by the S.C. Department of Natural Resources. To obtain a permit call your local wildlife management office or law enforcement field office. For further information: <http://www.dnr.sc.gov>.

Identification

Foxes are among the smallest members of the canid or dog family.

Physical Description

The red fox (Figure 1a) is dog-like in appearance with a long pointed muzzle and large pointed ears that usually are erect and forward. It has moderately long legs and long, thick, soft body fur with a bushy tail. Red foxes are colored with a light orange-red coat, black legs, lighter underfur, and a white-tipped tail. They weigh 8 to 15 pounds, with males about 2 pounds

heavier than females. They are 34 to 62 inches from nose to tip of tail.

Gray foxes (Figure 1b) generally are salt-and-pepper gray with buffy underfur. The sides of the neck, back of the ears, legs, and feet are rusty yellow. The tail is long and bushy with a black tip. Gray foxes are slightly smaller than red foxes.

Species Range

Coyotes and wolves limit the range of foxes through intimidation and predation. Red foxes occur throughout most of North America with the exception of southern California, Arizona, and central Texas. Gray foxes occupy the eastern, north central, and southwestern US, as well as Mexico.

Health and Safety Concerns

Healthy foxes generally are not dangerous to humans. Attacks on cats and small dogs are infrequent in urban and suburban areas.

Rabid foxes are a threat to humans, domestic animals, and wildlife. Outbreaks of rabies are most prevalent among red foxes in southeastern Canada and occasionally in the eastern US. The incidence of rabies in foxes has declined substantially since the mid-1960s. In 2010, 429 cases of rabid foxes were reported in the US, compared to 2,246 for raccoons and 1,448 for skunks.

Canine distemper is a viral infection that affects foxes. The disease is highly contagious and can be passed to domestic animals. Red foxes are subject to mange (*Sarcoptes scabiei*). Infection often results in loss of fur where mites have burrowed (Figure 2).



Figure 2. A red fox infected with mange. Photo by Aaron Hildreth.

General Biology, Reproduction, and Behavior

Reproduction

Foxes are solitary except during the winter breeding season through midsummer, when families are together. Red foxes reach sexual maturity within one year. They normally mate from mid-January to early February and produce one litter per year. Fox pups are born from March in the south to May in the arctic. Red foxes generally produce 4 to 9 pups per litter and gray foxes usually have 3 to 7 pups.

Nesting/Denning Cover

Red foxes dig their own dens or use abandoned burrows of woodchucks or badgers (Figure 3). Dens usually have more than one entrance. The same dens often are used for several generations. Foxes frequently den in proximity to humans. Dens may be located near farm buildings, under haystacks, and inside hog lots or small pastures used for lambing. Gray foxes commonly create dens in wood piles, rocky outcrops, hollow trees, and brush piles.

Typically in South Carolina, foxes will have young in the late spring to early summer. It is not uncommon to see adult foxes active during

the day after the young are born and while the kits are being weaned.



Figure 3. Den of a red fox. Photo by the University of Nebraska-Lincoln (UNL).

Behavior

The home ranges of foxes vary, depending on habitat, availability of food, density of other foxes, and presence of other canids. Foxes disperse from denning areas during the fall and establish breeding areas in vacant territories, sometimes up to 250 miles away.

Habitat

Red foxes prefer open country with moderate cover, but can adapt to many habitats. The highest densities of foxes have been reported in the north central US, where suitable habitat is interspersed within extensive farmlands. Red foxes often establish breeding populations in urban areas.

Gray foxes prefer more dense cover such as thickets, riparian areas, swamps, and rocky pinyon-cedar ridges. Gray foxes closely associate with edges of deciduous forests in

eastern North America. Gray foxes also are found in urban areas where suitable habitat exists.

Food Habits

Foxes are opportunistic feeders that eat rabbits, mice, birds, eggs, insects, fruits, and nuts. Foxes usually kill animals that are smaller than a rabbit, although they sometimes kill raccoons, opossums, fawns, piglets, kids, lambs, and poultry. Foxes have a keen sense of hearing, vision, and smell that they use to detect prey. Foxes stalk with skill and patience, usually ending with a sudden pounce. Red foxes sometimes kill more than they can eat and bury food in caches to eat later. All foxes feed on carrion.

Voice, Sounds, Tracks, and Signs

Foxes bark, scream, howl, yap, growl, and make sounds similar to a hiccup. During winter, males often emit a yelping bark (“æwo-wo-wo”) that may be an important territorial warning for other males.

Fox have small feet and their tracks often are distinguished from other canids by their size (Figure 4) and the straight path that characterizes their walk.

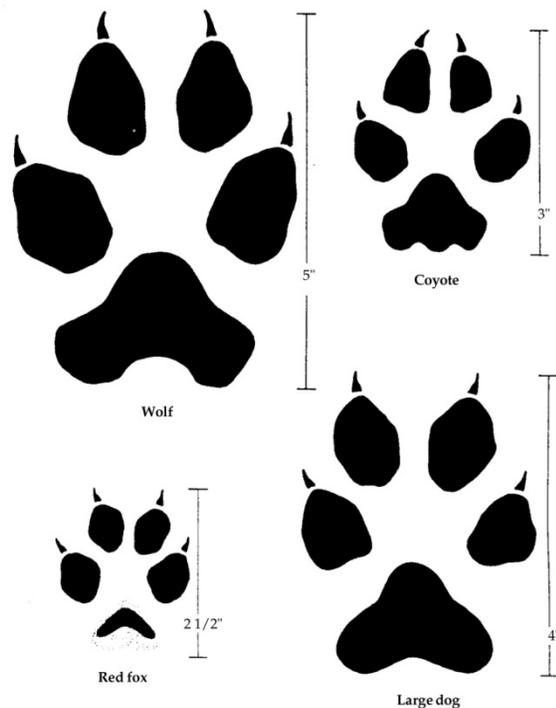


Figure 4. Fox track compared with tracks of other canines. Image by Prevention and Control of Wildlife Damage (PCWD).

Damage Identification

Foxes typically hunt from dusk to dawn. They become more noticeable when young are born, as the need for food increases dramatically. In the absence of physical sign, foxes are detected easily using trail cameras.

Damage to Landscapes

Foxes may cause significant damage to turf, notably in golf courses, when digging for grubs or rodents. Damage to landscape plants is uncommon.

Damage to Crops and Livestock

Foxes forage on berries, nuts, acorns, and corn. Foxes prey on chickens, ducks, geese, and other small to medium-sized animals.

Damage to Structures

Foxes do not directly damage structures, but their burrows can lead to unpleasant smells and sights (dead prey) around a structure. Foxes are less destructive when they burrow than woodchucks and badgers.

Damage Prevention and Control Methods

Habitat Modification

Avoid feeding and watering pets outdoors. If this is not possible, restrict the amount of food available to that which pets can consume in a single feeding. Properly dispose of garbage or other food sources that may attract foxes. Foxes often are attracted to rodents living in barns, crawl spaces, sheds, and garages, so rodent control may be necessary. Secure compost to prevent access to foxes and other wildlife. Cover window wells deeper than 12 inches to prevent entrapment of wildlife. Removal of carcasses will make livestock production areas less attractive to predators.

Exclusion

Secure decks, outbuildings, and crawl spaces with 2-inch mesh fences to prevent foxes from accessing or establishing dens under them. Use smaller mesh to exclude other species. The mesh screen should extend at least 2 inches into the soil before bending at a 90° angle away from the structure to form an underground skirt. The skirt screening should be at least 18 inches wide to prevent burrowing under the mesh. Seal all inactive ground-level openings into poultry buildings and close doors at night.

Protect free-range poultry and livestock areas by installing a perimeter fence made of 2-inch mesh. The fence should be 6 feet tall with an 18-inch overhang and an 18-inch skirt to

prevent foxes from jumping over or digging under the fence. The skirt can be buried 2-inches below the soil surface. When possible, construct a roof of netting to exclude foxes that climb fences. A 3-wire electric fence with wires spaced 6, 12, and 18 inches above ground can repel red foxes. Combination fences that incorporate net and electric wires also are effective.

Exclude foxes from window wells or similar pits with wire-mesh or window well covers. Place beehives on stands 3 feet high. Use tight-fitting lids to keep foxes out of garbage cans.

Frightening Devices

Foxes readily adapt to noise-making devices such as propane exploders, timed recordings, and radios. Such devices may temporarily reduce activity in an area. Flashing lights also may provide temporary protection in relatively small areas. For example, a rotating beacon or strobe light may offer protection in an enclosure for livestock or poultry.

When properly managed, guarding dogs (e.g., Great Pyrenees and Akbash dogs) can prevent predation on sheep and other livestock. In addition, llamas, mules, and donkeys may serve as effective guards, especially for sheep, since they are aggressive toward canids.

Repellents

Urine of coyotes or dogs has been used as a repellent for foxes, but the long-term effectiveness of this technique is questionable.

Toxicants

No toxicants are registered for use on foxes in South Carolina.

Shooting

Legal hunting season on private lands in South Carolina for foxes is Thanksgiving Day through March 1. A free depredation permit for nuisance foxes may be issued to landowners who do not possess a hunting license.

Harvest by sport hunters and fur trappers can reduce the number of foxes in areas where damage is occurring. Livestock and poultry producers with predation problems during the late fall and winter can sometimes find private fur trappers willing to hunt or trap foxes around loss sites. Depredation usually is most severe, however, during the spring when furs are not saleable. It is difficult to interest private trappers at that time.

If the animal is within 50 yards, a shotgun with buckshot is preferred. A small caliber (e.g. .223, .22-250) rifle is preferable at ranges from 50 to 400 yards.

Foxes may be hunted at night; however, they may not be hunted with artificial lights except when treed or cornered with dogs and no buckshot or any shot larger than #4, or any rifle ammunition larger than a twenty-two rimfire may be used. Devices that amplify light using any type of power source are considered artificial light (including night vision or thermal imaging equipment).

Go to www.dnr.sc.gov for additional information.

Trapping

In South Carolina, the legal trapping season is December 1 – March 1 for licensed trappers, however a private landowner may apply for a free depredation permit outside of the regular trapping season or if they do not have a trapping license. Permits can be obtained from any South Carolina DNR office or conservation officer.

Furbearer Trapping regulations can be obtained online at www.dnr.sc.gov.

Trapping can be effective and selective, but requires considerable expertise to be successful. Inexperienced trappers may educate foxes, making them more difficult to catch.

Cage traps (minimum 10 x 12 x 32 inches, Figure 5) sometimes are effective for capturing foxes in urban areas. Use double-door cage-traps (42 x 8 x 8 inches) at entrances to dens. Obtain permits to trap foxes from your state wildlife agency.

Disposition

Relocation

In South Carolina, relocation of a fox is not permitted.



Figure 5. Baited cage-trap for foxes.
Photo by Stephen M. Vantassel.

Translocation

In South Carolina, translocation is not permitted.

Euthanasia

Euthanasia by carbon dioxide is suitable for foxes. When performed properly, placement of a .22-caliber round in the back of the skull is appropriate.

Web Resources

<http://dnr.sc.gov>

<http://wildlifecontroltraining.com>

<http://icwdm.org/>

<http://wildlifecontrol.info>

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