

Tree Squirrels

Prepared by the **National Wildlife Control Training Program**. <http://WildlifeControlTraining.com>
 Research-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 1. Eastern gray squirrel (*Sciurus carolinensis*).
 Photo by Whpq.

Species Overview

Conflicts

Squirrels cause conflicts when they damage structures, gnaw wires, and raid bird feeders and gardens.

Legal Status

Fox and gray squirrels usually are classified as game animals. Red squirrels may be unprotected in some states. Flying squirrels often are fully protected as non-game wildlife. Check with your state wildlife agency to determine the legal status of squirrels in your area.

Identification

In this chapter, tree squirrels are divided into three groups:

1. large tree squirrels, namely the eastern gray squirrel (*Sciurus carolinensis*) and fox squirrel (*Sciurus niger*);
2. small tree squirrels, such as the red squirrel (*Tamiasciurus hudsonicus*); and
3. the southern flying squirrel (*Glaucomys volans*).

Physical Description

Eastern gray squirrels (Figure 1) typically are gray, but have some variation in color. Black individuals are common in northern parts of their range. Fox squirrels typically are orange-brown, but color varies greatly from all black to silver gray.

Red squirrels are red-brown above with white under parts. They have small ear tufts and often have a black stripe separating the dark upper color from the light belly.

Flying squirrels have broad webs of skin connecting the fore and hind legs at the wrists. They have large black eyes, and a distinctly flattened tail.

Eastern gray squirrels are 16 to 20 inches long and weigh $1\frac{1}{4}$ to $1\frac{3}{4}$ pounds. Red squirrels are considerably smaller. They are 10 to 15 inches long and weigh $\frac{1}{3}$ to $\frac{2}{3}$ pounds. Flying squirrels are 8 to 12 inches long.

Species Range

Gray and flying squirrels are found throughout the state. Fox squirrels occur in the northwestern and south-central areas of the state and red squirrels occur in the western end.

Health and Safety Concerns

Squirrels chew on electrical wires, which can cause building fires. In addition, squirrels can create a fire hazard by nesting in chimneys. If left long enough, squirrels can weaken rafters due to their gnawing.

Gray and fox squirrels are vulnerable to ticks, mange, fleas, and internal parasites. Squirrel hunters often notice bot fly larvae, called “wolves” or “warbles,” protruding from the squirrel’s skin, especially before frosts. The larvae do not impair the quality of the meat, and are not known to harbor diseases dangerous to humans. The droppings of flying squirrels have been associated with murine typhus.

General Biology, Reproduction, and Behavior

Reproduction

Most squirrels mate twice a year, but fox squirrels usually mate only once per year.

During the breeding season, noisy mating chases take place when one or more males pursue a female through the trees. Very little is known about flying squirrel mating behavior. Gray squirrels average three young per litter and fox squirrels have two to three. Red and flying squirrels average four young per litter.

At birth, young are hairless, blind, and their ears are closed.

Nesting/Denning Cover

Tree squirrels rear young in leaf nests and tree cavities, and may use chimneys, attics, or soffits.

Behavior

All squirrels except flying squirrels are diurnal. Home ranges vary depending on the season and availability of food. They often seek fruit- and nut-bearing trees and cornfields in the fall. Tender buds of maple trees are favored in the spring. Populations of squirrels fluctuate regularly.

Habitat

Gray squirrels typically occupy any woodlot with hardwoods that produce mast. They also are common in cities, especially in and around parks. Red squirrels prefer mixed-hardwood and conifer forests. Flying squirrels, being more arboreal (tree-dwelling), are most common in areas with large, mature hardwoods.

Food Habits

Gray and fox squirrels scatter cache, which means they store individual acorns or other seeds in different areas around their home range. Red squirrels store food in one place. It is not uncommon to find trash bag-sized piles of conifer cones stored by red squirrels inside attics or gutters, or in piles at the base of a tree.

Gray and fox squirrels typically feed on mast in fall and early winter. Acorns, hickory nuts, walnuts, and a variety of fruits are favorite fall foods. Nuts often are cached for later use. In late winter and early spring, they prefer tree buds. In summer, they eat fruits, berries, fungi, corn, and cultivated fruits when available. Squirrels may chew bark from a variety of trees in early spring.

Flying squirrels have similar diets, except they are the most carnivorous of all tree squirrels. They eat bird eggs and nestlings, insects, and other animal matter when available.

Voice, Sounds, Tracks, and Signs

Squirrels emit a variety of sounds including churrs, barks, and squeals. Churrs express anger, barks act as warnings, and squeals occur when a squirrel is terrorized or in pain.

Damage Identification

Damage to Landscapes

Squirrels may damage lawns or planting beds by burying or digging up nuts. They chew bark and clip twigs on ornamental trees or shrubs planted in yards (especially maples). Squirrels often take seed at feeders intended for birds.

Squirrels do not pose a threat to pets, but will consume bird eggs and nestlings. Flying squirrels are small enough to enter most birdhouses and are likely to eat nestling birds.

Damage to Crops and Livestock

Squirrels may eat planted seeds, mature fruits, corn, and grains. Squirrels can severely curtail nut production by eating nuts prematurely and by carrying off mature nuts. In fruit orchards, squirrels may eat blossoms and destroy ripening fruit. Red and gray squirrels chew the bark of various orchard trees. Squirrels do not pose a threat to livestock.

Damage to Structures

Gray and fox squirrels typically gnaw holes the size of a baseball in wooden structures. Holes of red squirrels are golf ball-sized, and those of flying squirrels are the size of a quarter.

Squirrels often travel on power lines and can short out transformers. They gnaw on wires, enter buildings, and build nests in attics. Feces of flying squirrels mixed with urine can stain.

Squirrels may enter buildings through uncapped chimneys and cause substantial damage. A squirrel trapped in a seasonal cabin during winter may chew window framing and panes trying to escape.

Damage Prevention and Control Methods

Habitat Modification

Trim limbs and trees 10 feet away from buildings to prevent squirrels from jumping

onto roofs. Modify bird feeders with baffles to prevent foraging by squirrels. Add a hopper to collect spilled seed and prevent feeding on the ground.

Exclusion

Prevent squirrels from traveling on wires by installing 2-foot sections of lightweight 2- to 3-inch diameter plastic pipe. Slit the pipe lengthwise, spread it open, and place it over the wire. The pipe will rotate on the wire and cause traveling squirrels to tumble. Critter Guard® has created a device to stop squirrels from crossing wires. NEVER install wire guards on or near electrical lines. Only professional electricians and employees of power companies should work on or near power lines.

Prevent squirrels from climbing isolated trees by encircling the tree with a 2-foot-wide collar of sheet metal 6 feet above the ground (Figure 2). Consult the local power company before installing anything on a power pole. Attach metal bands using encircling wires held together with springs to allow for tree growth.



Figure 2. A tree trunk wrapped with aluminum flashing may prevent squirrels from climbing. Photo by Stephen M. Vantassel.

Close openings to buildings with heavy-gauge, ½-inch wire mesh or aluminum flashing. Wire-mesh fences topped with electrified wires may keep squirrels out of gardens or small orchards.

Frightening Devices

No frightening devices have been proven effective, although strobe lights in attics have shown some promise.

Repellents

We do not recommend the use of moth balls (naphthalene or para-dichlorobenzene) to repel squirrels because the chemical can cause severe distress to people. This is an off-label use, and it is illegal in many states.

Ro-pel® is a taste repellent that can be applied to seeds, bulbs, flowers, trees, shrubs, poles, fences, siding, and outdoor furniture. Effectiveness varies greatly, as rodents typically are not deterred by bitter tastes. Capsaicin is registered for use on tubing and equipment used to collect maple sap.

Polybutenes are sticky materials that can be applied to buildings, railings, downspouts, and other areas to keep squirrels from climbing. Polybutenes can be messy, and can stain building finishes. A pre-application of masking tape is recommended.

Toxicants

No toxicants are registered for the control of tree squirrels.

Shooting

Shooting with a high-powered pellet rifle, .22-caliber rifle, or shotgun with No. 6 shot is very effective. Firearms cannot be discharged in many urban areas due to discharge regulations.

Trapping

Gray and fox squirrels are classified as game species in most states, so trapping permits may be required. Place traps near den holes or on travel routes baited with peanut butter or nuts. Most traps will be placed off the ground, so make sure they are secured to something solid. Use at least three traps for gray and fox

squirrels, and five or more for smaller squirrels. Remove competing food sources such as bird feeders.

Disposition

Relocation

In rescue situations, such as from chimneys or basements, consider on-site release of squirrels, provided the entrance to the structure has been secured.

Translocation

Avoid translocation of tree squirrels because of the stress placed on both transported and resident squirrels, and concerns regarding disease transmission. Many states do not allow the translocation of squirrels. Check with your state wildlife agency.

Euthanasia

Carbon dioxide is the preferred method of euthanasia for tree squirrels. Squirrels expire relatively quickly in carbon dioxide chambers. Shooting is also a good method for larger squirrels if it is safe and legal in your area.

Web Resources

<http://wildlifecontroltraining.com>

<http://icwdm.org/>

<http://wildlifecontrol.info>

<http://Crittterguard.org>

Prepared by the National Wildlife Control Training Program. WildlifeControlTraining.com
Certified wildlife control training programs to solve human – wildlife conflicts. The only research-based source for training, animal handling and control methods, and wildlife species information