

Tree Squirrels

Urban Wildlife Damage Control

Kansas has three species of tree squirrels. Gray squirrels, fox squirrels and southern flying squirrels inhabit various areas of the state. Gray and fox squirrels are the main nuisance animal in U.S. urban areas.

Fox Squirrels

The fox squirrel (*Sciurus niger rufiventer*) is the most common species and can be found in most cities or towns as well as in open woodlots, hedge rows and shelter belts of rural Kansas. Fox squirrels are the largest of the three species averaging 18 to 27 inches from their nose to the tip of their tail and weighing from 1¾ to 2¼ pounds.

The fox squirrel is so named because its color often resembles the brownish, red-orange of the red fox. Not all fox squirrels exhibit this color. In fact, fox squirrels come in a variety of colors including black, white and several shades of brown or gray.

Older female fox squirrels may produce two litters of young annually, but young females will produce only one litter. They nest in tree cavities, artificial nest boxes and leaf nests.

Fox squirrels can often be seen foraging on the ground. Occasionally, they eat young birds or eggs. Their diet changes with the seasons. In the spring, fox squirrels feed on elm buds, sprouting oak leaves, wild gourds, shrubs, fruits and even insects. During the winter, they feed on Osage orange seeds (hedge balls), bark and nuts buried in the fall. Gray and fox squirrels' habit of burying nuts is responsible for many tree seedlings.

Squirrels need trees for escape, cover and dens. Unlike gray squirrels, fox squirrels can be found in fairly open areas. Although populations are denser in heavier timber, fox squirrels commonly inhabit hedge rows, shelter belts and urban areas throughout the state.

Gray Squirrels

Two subspecies of gray squirrels, *Sciurus carolinensis Gmelin* and *S.c.*

pennsylvanicus can be found in the eastern one-third of Kansas. At 17 to 19½ inches, these squirrels are slightly smaller than fox squirrels, and weigh 1¼ to 1¾ pounds. They are gray with white underparts and white-tipped tails.

Gray squirrels, more than fox squirrels, normally prefer heavier oak-hickory woodlots. Although fox squirrels are prone to stay on the ground for extended periods, gray squirrels prefer to spend more time in trees.

Like fox squirrels, gray squirrels nest in tree cavities, nest boxes or leaf nests. Older females may give birth to two litters per year while younger ones only produce one. The average litter size for both squirrel species is three.

Gray squirrels normally eat the same kind of nuts, berries, and grains as the fox squirrel. Both species require open water within their home ranges.

Southern Flying Squirrels

The southern flying squirrel (*Glaucomys volans volans*), 8½ to 9½ inches long, is the smallest tree squirrel species found in Kansas. This squirrel is a protected nongame species with viable populations limited to the oak-hickory deciduous forests of six southeastern Kansas counties.

It does not fly but glides on broad flaps of loose skin that extend along each side from the front legs to the flanks. The flying squirrel moves from one tree to another, using its broad flat



tail as a rudder.

Unlike the fox and gray squirrels, flying squirrels are nocturnal. They use their extremely large eyes and keen sense of smell for foraging at night. The flying squirrel's diet is similar to that of the fox and gray squirrels: nuts, fruits, berries, and insects such as moths and beetles. They readily use bird feeders and are frequently responsible for seeds mysteriously disappearing overnight.

Flying squirrels are shy animals. Their nocturnal lifestyle keeps them virtually unknown to many people. The flying squirrel nests in tree cavities, often in abandoned woodpecker holes. The southern species prefers abandoned orchards and mature hardwood or conifer woodlots. They can also be found in parks and older suburban neighborhoods with mature vegetation.

Their large eyes and soft, silky fur make flying squirrels quite attractive. You can increase your chances of seeing them by building nest boxes and floodlighting bird feeders.

Flying squirrels don't create as many problems as other tree squirrels,

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| <input type="checkbox"/> Blackbirds in Roosts, L-857 | <input type="checkbox"/> Snakes, L-864 |
| <input type="checkbox"/> Cottontail Rabbits, L-858 | <input type="checkbox"/> Woodchucks, L-865 |
| <input type="checkbox"/> Muskrats, L-859 | <input type="checkbox"/> Woodpeckers, L-866 |
| <input type="checkbox"/> Opossums, L-860 | <input type="checkbox"/> Woodrats, L-867 |
| <input type="checkbox"/> Raccoons, L-861 | |

Table 1. Reproduction of tree squirrels in Kansas

Species	Mating Season		Gestation Days	Litter Size	
	First	Second		Range	Average
Gray	Jan/Feb	May/July	44 to 45	2 to 5	3
Fox	Jan/Feb	May/July	44 to 45	1 to 6	3
Flying	Feb/Mar	May/July	40	2 to 7	3

but they move into attics, vacant cabins or walls and can cause damage. During winter, flying squirrels often gather in communal dens. Woodcutters may find a dozen or more in a hollow tree cavity.

Mating

Tree squirrels in Kansas mate in mid- to late winter and again in early summer. Litter sizes are similar among species (*Table 1*).

Tree squirrels develop slowly compared to other rodents. Young are born naked and blind, with their ears closed. Flying squirrels have the smallest offspring, 1/8 to 1/4 ounce, and fox and gray squirrels the largest, about 1/2 ounce. During the first few weeks fur develops. At about 4 weeks the ears open, and by the sixth week, the eyes are open, too. The young are weaned and on their own in 2 to 3 months.

Management

Tree squirrels provide relaxation and enjoyment for the many Kansans who spend time observing or photographing wildlife. Fox and gray squirrels are also popular game animals with hunters.

You can improve woodlot habitats by planting nut trees, including hickories, walnuts, oaks or pecans. To protect new seedlings and young trees from squirrels, place an expandable protective wrap around their trunks. Use a commercial wrap or make one from 1/4-inch mesh hardware cloth or hail screen. Screens or wraps should extend 18 to 24 inches above the ground.

Extremely dense stands of timber may require selective cutting to open them and enhance the growth of beneficial trees. When harvesting

timber, take care to leave den trees. The optimum number of den trees or nest boxes is two per acre. Squirrels also need den trees near open water. Or tree squirrels will use artificial nest boxes placed 10 to 20 feet above ground. Plans for various nest boxes are available from K-State Research and Extension or the Kansas Department of Wildlife and Parks.

Normally, it is not necessary to plant food plots for tree squirrels, but if you do, they should be placed close to den trees and open water.

Urban Damage

Although tree squirrels seldom pose a problem in rural areas, this is not the case in urban settings. Occasionally, fox and gray squirrels enter attics and chimneys, damaging wiring and siding of urban dwellings.

Squirrels get in by traveling along electrical lines, cable TV wires, or by jumping from nearby tree limbs and entering holes in siding, unscreened vents or chimneys. Once inside, they often damage insulation, wiring or household contents. Most complaints involve tree squirrels in attics or adjacent knee-walls.

Squirrels can also damage sweet corn, tomatoes and other vegetables or flower bulbs and freshly planted seeds in urban gardens. They are often a nuisance around bird feeders, frightening desirable birds and scattering seeds.

Damage Control

The southern flying squirrel is fully protected in Kansas. Normally, fox and gray squirrels may be legally taken as game animals from June 1 through December 31. They are protected by a

closed season the rest of the year. Because using firearms within city limits generally is prohibited, shooting squirrels is not recommended in urban areas. But if it is legal and open season, do not waste animals that have to be removed. They can provide an inexpensive and delicious meal.

If squirrels are damaging a house, watch to see how they are getting in and trim tree limbs that are within jumping distance (5 to 6 feet) of the house. If squirrels are traveling along a power, cable TV or telephone line, slit a piece of plastic PVC pipe, 24 inches long, and place it over the wire. When a squirrel tries to cross it, the pipe rotates and the animal loses its footing. Be sure to contact the local power company before modifying power lines.

If a squirrel appears in the basement, it has probably come down the chimney and out the furnace or fireplace damper opening. A squirrel in a fireplace or attached chimney cannot get out on its own and must be removed from above or below. If the squirrel entered through the chimney flue, it may have built a nest or brought in material. Check for this obstruction and remove it.

Cover chimneys or attic vents with 1/2-inch mesh screen. When restricting access, make sure not to trap a squirrel inside because of possible damage to the home's interior. If you find a squirrel in an attic or another part of a house, do not try to chase it out. Open doors or windows and allow the squirrel to find its own way out instead. If this is unsuccessful, bait a live or cage trap, at least 9 by 9 by 24 inches, with peanut butter or nut meats. Once the squirrel is trapped, release it outdoors.

Nest boxes provide homes for squirrels, reducing their need to enter yours. Nest boxes should be made of untreated wood or metal because squirrels often destroy boxes made of plastic plywood or particle board by gnawing on them.

Tree Squirrels Around Bird Feeders

Homeowners sometimes have problems keeping the squirrels out of

bird feeders. Tree squirrels should be considered part of the fauna and enjoyed along with the birds.

Squirrels are often distracted by feeding them ear or shelled corn away from or on the ground near suspended bird feeders. Place bird feeders at least 8 feet away and 6 feet off the ground.

Plastic piping offers a new way to outsmart squirrels. Place this pipe over ropes or wires suspending feeders so squirrels cannot get a good footing.

You can also use baffles to keep squirrels from climbing on wires leading to feeders. Clear plastic baffles are available from companies that sell bird feeders, or you can make your own. Remember, baffles must be big enough so squirrels cannot crawl over them.

Exclusion

Squirrels enter houses through many natural or created openings such as holes along the soffits where boards have rotted out, unscreened attic vents, uncapped chimneys, broken or open windows and doors, and electrical wire and utility pipe openings.

Never knowingly tolerate a squirrel in your house. Preventive maintenance is the best defense against unwelcome squirrels and other wildlife. Periodically inspect for potential entrances and make necessary repairs. Make sure squirrels or other animals are out of the attic before sealing entrances because if you seal them in the attic, they can do even more damage trying to escape. Cover the insides of attic vents and similar openings with ½-inch hardware cloth; repair rotten boards along soffits or behind eaves troughs; and replace broken windows, cap chimneys and fill electrical-wire and utility-pipe openings.

Squirrelproof valuable trees by placing 2-foot wide metal bands around them, 6 feet off the ground. Trim overhanging branches to prevent access.

Protect valuable crops by building a fence of 1-inch mesh wire. The fence should be at least 30 inches high and extend 6 inches below ground, with an additional 6 inches bent outward at a

90-degree angle to discourage burrowing. Set at least two electrified strands, one 2 to 6 inches above ground and the other at fence height, off the fence about 3 inches.

Protect newly planted bulbs with 1-inch mesh poultry wire. Dig a trench slightly deeper than the desired depth of planting and fit the poultry wire in the bottom. Add dirt and plant the bulbs. Place another strip of poultry wire over the plantings so that the bulbs are completely encased, and finish covering with dirt.

To stop squirrels from stripping the bark off ornamental trees and shrubs, wrap trees with metal sheeting or protect them with squirrel baffles, as you would a bird-feeder pole. Tree wrap keeps squirrels from gnawing on bark by keeping them out of the tree. Wrap all trees within branch-to-branch jumping distance. This method works well on trees near feeders or around your house. Prune trees near the house that give squirrels access to the roof. Remember to allow for tree growth when wrapping. If you have a continuous tree canopy that allows squirrels easy movement, you will have to find other means of control.

Feeding is the easiest way to prevent squirrels from stripping tree bark. Scatter shelled or cob field corn on the ground near the trees or bird feeder, or place it on a shallow feeding platform.

There are also squirrel feeders that hang or impale cob corn.

Squirrels are fond of sunflower seeds and nuts, but nuts can get very expensive, especially when most end up buried rather than eaten. Collect black walnuts, butternuts, hickory nuts or acorns in the fall and store them in mesh bags to use later.

Trapping

As with all trapping, be sure it is open season and you are not violating any local or city laws. Always take precautions to reduce the hazards of trapping nontarget wildlife or pets. If legal, a good trapping program can eliminate troublesome tree squirrels from an area. Several types of traps can be used to take tree squirrels.

A modified wooden box-type gopher trap has been used quite successfully. To modify a gopher trap, lengthen the trigger slot with a rat-tail file or pocket knife so the trigger can swing unhindered and the squirrel can pass beneath the swinging loop of the unset trap. Remove the back of the trap and replace it with hardware cloth, which allows the animal to see the bait from both ends, but prevents it from entering the trap from the back.

For a dual-assembly trap, place two box traps back to back and secure them to a board (*Figure 1*). Connect them with a small strip of hardware cloth to form the baiting area. Place

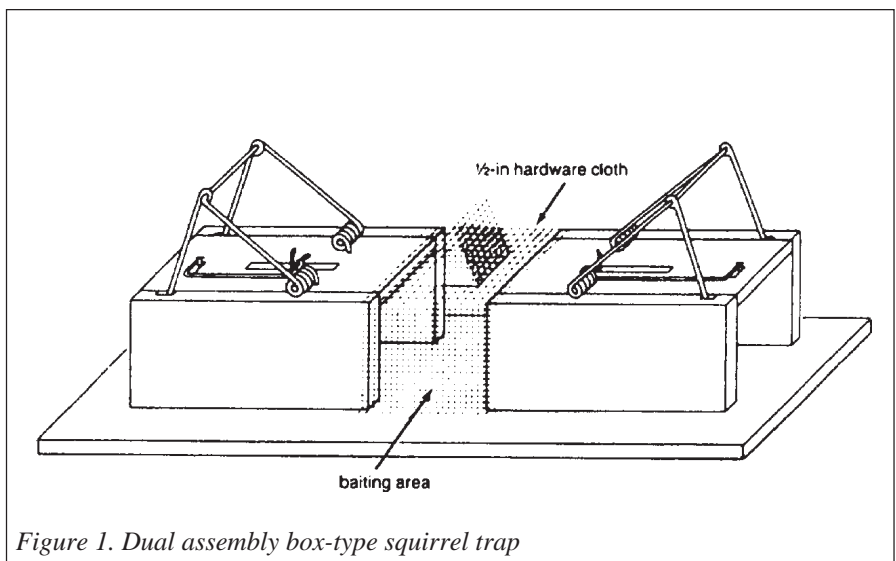


Figure 1. Dual assembly box-type squirrel trap

bait through a small door cut through the wire or through the open ends.

For safety, place the multiple-box trap inside a lidded box. Enclosing the trap minimizes the chances of accidentally catching pets or birds.

A Conibear trap with a jawsread of 4 inches or less, is also an effective tree squirrel trap. The wire trigger permits the trap to be used baited or unbaited. It is best to construct a wooden shell and put a No. 110 Conibear trap inside. Then set the shell with traps inside on a limb used by squirrels. But do not place it in the path of pets or other nontarget animals. Positioning the trap well inside the shell reduces the hazard of catching pets or birds. Before setting them, leave traps in place in the shell until squirrels freely pass through.

The standard cage-type box trap is the most common trap for catching

tree squirrels. It is important to get the proper size trap, because one that is too small or too large will either not be successful or will catch nontarget animals. The proper size cage-type trap has a 6 by 6 inch opening and is 24 inches long. One with a door on each end, so the squirrel can see through the trap, is preferable.

A baited trap is better than an unbaited one. Set the bait elevated about 6 inches off the ground so the scent drifts toward the approaching squirrel. Peanuts and peanut butter on bread are superior baits for tree squirrels. Other favorites are nut meats, fruits and seeds, including corn and apples.

It is a good idea to set the trap directly in the squirrels' travel lane. It is often necessary to build a fence to funnel the squirrel into the trap. In some situations, unbaited traps set directly in their line of travel may be successful,

but traps set at entry holes leave squirrels no option except to enter.

Repellants and Poisons

Some repellants, of questionable effectiveness, are registered for use on tree squirrels in Kansas. Poisons may not be used to kill tree squirrels because they place other wildlife and pets at risk.

For further assistance contact Animal Damage Control, Room 128, Call Hall, Kansas State University, Manhattan, Kansas 66506, (785) 532-5654.

Also, order the publication, *Sources of Wildlife Damage Control Supplies*, from your county Research and Extension office.

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