



Gray Squirrel

Sciurus carolinensis



The gray squirrel (*Sciurus carolinensis*) is also known as the bannertail, silvertail, and cat squirrel. It can be found in mature hardwood forests dominated by hard mast, or nut producing trees such as oak, hickory, and beech. It seldom frequents softwood stands, which are more commonly used by the red squirrel.

Vermont Wildlife Fact Sheet

Physical Description

The gray squirrel is normally gray in color, although white and black variations can occur. The fur on its head, back, and sides often include rust red and black hairs, which might make the squirrel look more brown in color. Its chin, throat and belly are white. The most distinguishing feature of the gray squirrel is its large bushy tail, which ranges in length from six and a half to nine and a half inches in length. The male and female are about the same size, with a total length (including tail) of 16 to 21 inches, and an average weight of 15 to 24 ounces. The squirrel uses its tail for balance in trees and as a kind of parachute when jumping from branch to branch or falling to the ground.

Life Cycle

Squirrels reach sexual maturity at eight to eleven months. They have two breeding periods each year, in January and June. After a gestation period of 40 to 45 days, the females will

normally have a litter of two to four young anywhere from early spring until July. The young are born naked, blind and helpless and are weaned between eight and ten weeks of age. Although the young can survive on their own by the time they are 15-weeks old, they generally remain with the mother until she has her second litter. If they are born during the summer, they may stay with her all winter.

Food availability greatly influences survival and reproductive success. In good food years, up to 40 percent of females produce second litters, in poor years almost none. Average life expectancy for a squirrel is only one or two years, although females have been known to live up to 12 years and males 9 years. Annual mortality rates average 50 percent for adults, and 75 percent for juveniles.

Food Items

Nuts, such as acorns, hickory nuts, and bechnuts make up the bulk of the gray squirrel's diet and are crucial to its survival.

The gray squirrel is omnivorous, eating both plants and animals. During spring and summer months, when nuts are not yet available, it will eat a variety of fruits, buds, flowers, roots, mushrooms, insects, and small bird eggs. Because the nut crop is crucial to its survival, however, the gray squirrel will "scatter hoard" the nuts, burying them one by one about an inch below the ground. Shared by many squirrels, these buried nuts are relocated by a keen sense of smell and a good memory. Nuts that are not eaten may grow into trees. Years of abundant food allow the squirrel population to multiply. When good food years are followed by years of low nut production, the squirrels may migrate in large groups to find food. When no food can be found, mortality will be high and populations can drop up to 25 percent. One major migration took place in 1936, when hordes of squirrels moved across Vermont from east to west, through trees, over land, and even swimming through rivers and ponds. Populations usually

recover to former levels after a couple of good mast years.

Habits & Habitat

In Vermont, good gray squirrel habitat consists of mature hardwood forest with a high component of oak, hickory and beech. A closed canopy is usually preferred, so that the squirrel can travel above ground and avoid predation. The best habitat contains nut-producing trees, especially oak, in combination with hickory and/or beech. The availability of alternate food producing trees, such as ash, maple, butternut, hophornbeam, and black cherry can buffer against years of poor mast crops. A permanent source of water such as a pond or stream is also important.

Den trees provide winter shelter, escape cover and nest sites. Suitable cavities, such as abandoned woodpecker holes, are one to three feet deep and six to ten inches in diameter with entrance holes three to four inches wide. Larger entrance holes are avoided by the gray squirrel as these allow entry of raccoons. Leaf nests are constructed to provide alternate escape and nesting cove, but cavities provide better shelter than leaf nests.

The home range of a gray squirrel varies from one to 25 acres depending upon habitat quality. Normal daily movements average only 160 feet.

Abundance

Although the gray squirrel can be found throughout much of Vermont, the best habitat and highest populations occur in the

oak dominated hardwood forests of the Champlain Valley, Connecticut River Valley and southern Vermont.

History

Historically, the gray squirrel has always been present in Vermont. Prior to European settlement, the mature forests preferred by the gray squirrel were more abundant. As the forests were cleared for lumber and agricultural practices, the availability of this type of habitat decreased and, with it the squirrel population. However, as the abandoned farms have reverted back to forests in Vermont, the quality of gray squirrel habitat is slowly improving.

Resource Utilization

Squirrels are a good food source for many animals, including hawks, owls, bobcats, coyotes, fishers, foxes, and weasels. People also like to hunt gray squirrels, which are valued for their meat.

Management Efforts

In Vermont, the best management opportunities for gray squirrels are in mature hardwood forests dominated by oak. The presence of mature hickory and beech in these stands further enhance their value to squirrels. As they tend to stay near their nests, gray squirrels can be managed in wood lots as small as five to ten acres. A gray squirrel density of one per acre is a reasonable goal in good habitat, with two five per acre possible in the very best habitats. Small

woodlots, riparian zones and field borders can be managed for gray squirrels if they are five acres or more in size, at least 50 feet wide and have nearly complete canopy closure.

A minimum of 150 pounds of acorns and nuts per acre is required to maintain good gray squirrel populations and to also encourage use by other wildlife; more than 80 species of birds and mammals are known to rely on acorns for survival. To provide this amount, hard mast producing trees must be 15 inches in diameter at chest height and a major component of the forest. Good habitat should have two or more primary hard mast trees species plus several alternate food producing trees, such as ash, maple, butternut, hop hornbeam, and black cherry, as insurance against poor mast crops.

Stands of mixed hardwoods or hardwoods and pine can be improved by selective thinning. The best mast producing trees are protected. Areas managed for gray squirrels also benefit a variety of wildlife.

Illustration by J.J. Audubon