



West Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*)

Common Name
Northern Flying Squirrel

Scientific Name
Glaucomys sabrinus fuscus

Status
Although northern flying squirrel populations are stable throughout much of the species' range, the U.S. Fish and Wildlife Service officially listed the two southern Appalachian subspecies as **Endangered** in 1985. One subspecies is found in West Virginia and an adjacent county of Virginia; the other subspecies occurs in North Carolina, Tennessee, and extreme southwestern Virginia.

West Virginia Status
The subspecies which occurs in West Virginia was first described in 1936 based on a specimen captured near Cranberry Glades, Pocahontas County. In West Virginia, the northern flying squirrel is now known from 90 sites in higher elevations.

Description
The northern flying squirrel is a small, nocturnal mammal weighing 90-148 grams (3.2-5.2 ounces) and measuring 260-305 millimeters (10.25 to 12.0 inches) in total length (tip of nose to tip of the last tail bone). It has a long, broad, flattened tail, very large, dark eyes, and thick, silky fur. The fur is light brown to reddish brown in color while the belly fur is mostly white. The distinctive patagia (folds of skin between the ankles and wrists) and the broad tail allow the squirrel to glide from tree to tree; bats are the only mammals that can truly fly. There are two species of flying squirrels found in West Virginia, the northern flying squirrel and the southern flying squirrel (*Glaucomys volans*). The endangered northern flying squirrel can be distinguished from the common southern flying squirrel by its larger size and greater adult weight (90-148 grams (northern) vs. 50-90 grams (southern)), the dark tip of its tail, and belly hairs which are gray at the base and white at the tip as opposed to the entirely white hairs of the southern flying squirrel. The coloration of the northern flying

squirrel is "richer" than the relatively dull and paler southern flying squirrel.

Habitat
As its name implies, the northern flying squirrel is typically found in boreal habitats, especially spruce/fir/hemlock and northern hardwood forests. In West Virginia, this squirrel is usually associated with red spruce and northern hardwoods such as sugar maple, black cherry, American beech, black birch, and yellow birch. These habitat types are most common in areas over 909 meters (3,000 feet) in elevation. Most known occurrences of the northern flying squirrel are in moist forests with at least some mature trees, standing snags, and downed logs; lichens and mosses are often abundant. In the southern Appalachians, northern flying squirrels tend to occupy small and potentially vulnerable islands of high elevation habitat.



(Photo by Larry Master)

Threats and Prospects
The northern flying squirrel has been protected under the Endangered Species Act since 1985. The main threat to this animal is loss of habitat (high elevation red spruce forest) to timbering and development. As a result of extensive logging, there is less red spruce forest in West Virginia today than there was before the timber boom around the turn of the last century. However, many areas in the higher elevations are coming back as red spruce forest,



although it will be many years before much of this forest is mature and suitable northern flying squirrel habitat. There is also some concern that the more common southern flying squirrel may be displacing the northern flying squirrel in some areas. Some types of habitat changes may favor the southern flying squirrel over the northern. Recent surveys, conducted through the placement and monitoring of nest boxes or by live-trapping, have shown the northern flying squirrel to be more widespread and abundant than was thought in 1985. When the subspecies was listed, there were only ten documented captures of this squirrel in West Virginia. By the middle of 1996, there were 779 recorded captures at 84 sites in the state. Most of the known locations of this squirrel are within the Monongahela National Forest and are protected. Under the present Forest Management Plan, all habitat within 0.83 kilometers (0.5 mile) of a northern flying squirrel capture site is protected. The U. S. Fish and Wildlife Service is reviewing the status of this subspecies to determine if it should be "downlisted" from endangered to threatened status based on the results of recent surveys and protection efforts.

Range

Northern flying squirrels occur in boreal evergreen and mixed northern hardwood/evergreen forests of the northern United States and Canada, the mountain ranges in the western United States, and certain high elevation areas of the Appalachian Mountains. The subspecies found in West Virginia, *G. s. fuscus*, occurs in only seven counties in West Virginia

(Grant, Greenbrier, Pendleton, Pocahontas, Randolph, Tucker, and Webster) and Highland County, Virginia. West Virginia locations for this species are in areas above 872 m (2,860 ft) in elevation.

Life History

Northern flying squirrels probably mate when one year old, although this has not been confirmed. The gestation period runs from 37 to 42 days. Females typically have one, or possibly two, litters of 1-6 young per year. The young are born blind and furless. The females nurse their young for approximately 2 months; the males have very little to do with rearing the young. Northern flying squirrels are active the entire year. Winter nests are usually in tree cavities and woodpecker holes or dense branches in the tops of evergreen trees; in summer the squirrels may also construct outside leaf nests which are often built in the upper portions of spruce trees. Nests are made up of several materials including finely shredded bark, moss, lichens, sedges, grasses, leaves, and other available materials.

Diet

Northern flying squirrels feed on a variety of foods including lichens, fungi (both epigeous fungi (fungi which fruit aboveground) and hypogeous fungi (fungi which fruit underground)), seeds, buds, fruits, staminate cones (male cones containing pollen such as the male cones of the red spruce), nuts, insects, and other plant and animal materials.