22. SNOWSHOE HARE

Lepus americanus

SUMMARY

Snowshoe hare are targeted by recreational hunters but they are also an important prey item for many species of wildlife. Snowshoe hares are most often found in large unbroken patches of young softwood and mixed-forest stands, particularly in northern and high-elevation climates with deep winter snowpack. They require a mosaic of densely forested and open shrublands, and thrive in areas with large numbers of woody stems and berry bushes.

NATURAL HISTORY

Snowshoe hare are an important part of the ecosystem because of their role as prey for so many wildlife species, including coyote, fisher, bobcat, lynx, great horned owl, and marten. Although, sometimes referred to as a rabbit, the hare has characteristics that are very different from the cottontail. The back feet of a hare are much larger than a rabbit's (hence the "snowshoe"), allowing it to travel through deep snow. Unlike the rabbit, the hare turns white in winter, an adaptation that allows it to blend in with a snowy environment. The hare's young are born fully furred with their eyes open, whereas rabbits are born blind and naked. These adaptations allow snowshoe hares to thrive in northern and upper elevation climates where cold and snow make survival for the cottontail much more difficult.

Snowshoe hares are active at dawn, dusk, and throughout the night. During the day they take cover under exposed tree roots, ledges, clumps of small trees, or under logs; shelter spots referred to as a "form."

Young hares are born from May through August in litters that vary in size from one to six. A female produces one to three litters per year. After winters with low temperatures and high snow accumulations, litters tend to be larger. Snowshoe hares are promiscuous breeders, and males sometimes fight each other to the death during the breeding season.

HABITAT REQUIREMENTS

Optimal hare habitat occurs in and around young softwood stands. Dependence on softwood is related to hares' need for concealment and thermal cover. The more difficult it is for a predator to see through a forest stand, the better the area is for hare. Understories with high stem densities that result in cover of greater than 60 percent to 85 percent, provide optimal habitat for snowshoe hare in winter. All of the habitat needs of a snowshoe hare should be met within a 20-acre home range. Extended periods of low temperature can impact hare survival due to the fact that they rely on limited fat reserves.

In boreal forest habitats to the north, hare populations exhibit 9- to 11-year density cycles generally assumed to be linked to lynx and other predator populations. Although the cycling may occur in Vermont, it appears to be less pronounced than in northern boreal forests.

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Figure 22.1
Softwood stands make optimal snowshoe hare habitat.

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Softwood cover is the single most important habitat need for snowshoe hare

When hare populations are at their highest point, good habitat could support an excess of one hare per acre.

Food requirements of the hare shift seasonally. Hare are able to adapt to whatever vegetation is close to the cover they require. In summer, herbaceous plants such as clover, grasses, and ferns are favored. Berries and the succulent parts of woody vegetation are also consumed in summer. Winter foods include twigs, buds, tender bark of shrubs and small evergreen trees, stems of berry bushes and seedlings of alders, aspens, spruces, hemlock, balsam fir, birches, willows, white pine, and cedar. Small scattered openings adjacent to softwood cover improve survival by reducing travel distances to food.

Softwood cover is the single most important habitat need for snowshoe hare and can be described as having two basic components:

- "Base Cover" is the dense conifer cover from 8 to 16 feet in height where hare spend the day.
- "Travel Cover" consists of softwood corridors or tracts that allow hare to move from base cover to a food source. Travel cover is not necessary if browse supplies are available immediately adjacent to base cover. Good travel cover effectively increases the range over which a hare may roam safely in search of browse.

Within the snowshoe hare's 20-acre home range, the following conditions provide optimal habitat (can be extrapolated over a larger area):

1. Maintain at least 20 to 50 percent of the stand in base cover of trees 8 to 16 feet in height.
2. Maintain 30 to 50 percent of the area in travel cover. In spruce/fir stands, optimum cover will average 30 years and older, and from 16 feet in height until the stand is harvested.
3. Plan for 5 to10 percent in permanent herbaceous vegetation such as grasses and forbs for a source of summer food, maintained in .25-acre openings scattered around the unit.

The habitat requirements that target snowshoe hare should be balanced with the optimal needs of other species that require older forests. Managing at the landscape level to provide areas of large unfragmented forests and coarse woody debris for species such as marten, some neotropical songbirds, and wintering deer should help to guide where management for snowshoe hare occurs.

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