

Snowshoe Hare

Lepus americanus

The snowshoe hare (Lepus americanus) is also called the "varying hare" because its color changes from brown to white in the winter. The snowshoe hare is often mistakenly referred to as a rabbit, but it is not. Although closely related, the hare has characteristics that are very different from the cottontail rabbit. The back feet of a hare are much larger than a rabbit's (hence the "snowshoe" name), allowing it to travel through deep snow. Unlike the rabbit, the hare turns white in the winter, an adaptation that allows it to blend in with a snowy environment. The hare's young are born above ground, fully furred with their eyes open, whereas rabbits are born in underground dens, blind and naked. These adaptations allow snowshoe hares to thrive in northern and high elevation climates where the cold and snow make survival for the cottontail difficult.



Vermont Wildlife Fact Sheet

Physical Description

The snowshoe hare is larger than the cottontail rabbit, growing to be 13 to 18 inches in length and weighing two to five pounds, on average. The male and female look similar except the female is slightly larger. Both the front and hind feet of the snowshoe hare are covered with thick fur. The hind feet are large and flat, which distributes the hare's weight as snowshoes do, enables it to travel on deep snow without sinking.

Its other common name, the varying hare, refers to its coat variation from winter to summer. In the summer, the hare has a brown coat with some black on its tail and ears. In the fall, the hare begins to molt and replaces its summer coat with a white fur. The process is reversed in the spring when the hare changes its color back to the brown for summer. Both molts happen gradually, lasting about ten weeks and seem to be triggered by the length of the day and changing amounts of sunlight.

Other unique characteristics include its long pointed ears, which allows it to detect predators. An excellent sense of smell and long whiskers allow it to forage at night. Double incisor teeth are useful in clipping buds of plants while feeding. While strong hind legs provide it with a great ability to leap and bound.

Life Cycle

Hares reach sexual maturity during the breeding period in the spring following birth, typically from March through July. Snowshoe hares are promiscuous and males sometimes fight each other to the death during the breeding season.

After a gestation period of 37 days, the young are born between May and August. A female produces one to four litters per year, varying in size from one to nine young per litter. The number of young born seems to correlate with winter temperatures and snow depth. After winters

with low temperatures and high snow accumulations, litters tend to be larger than following winters with high temperatures and low snow accumulations.

The female will often mate again hours after birth. The next litter may be born as soon as five weeks after the first. The young hares, or leverets, are born fully furred, with eyes open and hopping around by their first day. At ten days of age the young begin foraging on grass and are completely weaned from their mother's milk by the age of one month. By the time they are six months old they have reached their full adult size and will breed the following spring.

Food Items

Food requirements shift seasonally. In summer, herbaceous plants such as clover, grasses and ferns are favored. Berries and the succulent parts of woody vegetation are also consumed in the summer. Winter foods include twigs, buds, tender bark of shrubs and small

evergreen trees, stems of berry bushes and seedlings of alders, aspens, spruces, hemlocks, balsam firs, birch, willows, white pine and cedar. Hares prefer to eat twigs less than one-tenth of an inch in diameter. Unlike most rabbits and hares, the snowshoe hare is fond of meat and will even eat carrion.

Habits & Habitat

Ideal hare habitat is in and around coniferous forests. Aspen, spruce, and cedar swamps are also prime habitat. Dependence on conifer stands is related to the hare's need for concealment. The more difficult it is for a predator to see through a forest stand, the better the area. Small, scattered openings adjacent to the softwood cover, with brushy deciduous vegetation for browse, improve survival by reducing travel distances to food. Forests that have been recently managed through techniques such as thinning, cutting, or prescribed burning benefit hares because of their abundance of natural regeneration.

Snowshoe hares are active throughout the year at dawn, dusk and at night. During the day, they take cover under exposed tree roots, ledges, clumps of small trees, or logs. This spot is called a "form" and is used regularly by the same animal.

Snowshoe hare occupy well-defined home ranges that may overlap with one another, even though they are not social. They have an active core area of five to ten acres with 25 acres as the outer limits of their range. All of the habitat needs of a snowshoe

hare should be met within a 20-acre home range.

Abundance

Snowshoe hares can be found throughout the state, but prefer areas with coniferous forests. Their numbers are greater in mountainous regions rather than valleys or farmlands.

History

Snowshoe hare populations fluctuate in a cyclic fashion, with peaks occurring every eight to eleven years. During the peaks, hares become abundant, which in turn affects the predator populations that depend heavily on snowshoe hare for food. At the height of this cycle, research suggests that the interaction between the hare and its winter food supply is critical. If the demand placed on its habitat becomes too great and their numbers soon begin to decline. Losses due to predation also contribute to the dips in the cycle of the hare.

Resource Utilization

Snowshoe hares can be beneficial to the forests they inhabit by thinning young stands. This gives the surviving trees better growing conditions. Although they can over browse, their negative impacts are outweighed by both the value they provide as a game species, and the integral role they serve in the forest community.

Management Efforts

Cover is the single most important habitat need for the snowshoe hare. Cover has two basic components: base cover and travel cover. Base cover is the dense coniferous cover where the hare spends the day. The average tree height in good base cover is 11 feet (range is from eight to 15 feet). High densities of softwood stems, that result in low visibility, provide the best quality base cover. Travel cover consists of softwood corridors, or tracts, that allow the 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. Tree heights for travel cover ranges from 15 to 45 feet, in stands best described as small pole timber (six to ten inches in diameter).

All of the habitat needs of a snowshoe hare should be met within a 20-acre home range. Within this 20 acres, the following conditions provide optimal habitat:

- 1) At least 30 percent of the stand (six acres) is base cover. Generally, trees ten to 30 years in age (eight feet to 16 feet in height) fall into the category of base cover.
- 2) Maintain 45 percent (nine acres) 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 ten percent (two acres) to be in permanent herbaceous vegetation such as grasses and

forbs for a source of summer foods. Four one-half acre openings scattered around the unit to provide summer food are preferable to one or two large openings. Smaller openings reduce the vulnerability of hares to predators. Seeding log landings or forest roads with a conservation mix may be all that is necessary to provide sufficient amounts of herbaceous acreage within the management area.

4) 15 percent (three acres) of the 20-acre area should be in the regenerative stage (0-10 years old, up to eight feet in height). This provides both winter food and future cover. Care should be taken to encourage softwood regeneration by maintaining partial shading of the cut area