Snowshoe hare

Snowshoe hares (*Lepus americanus*) are a game species that have experienced population declines along the southern extend of their range, including the Manistee National Forest. Snowshoe hares turn white in the winter and brown in the summer to blend into their surroundings. However, as the climate changes, the timing of this color switch does not always match the change in snow-cover, causing them to be more vulnerable to predation. The ranges of the plant species hares typically associate with for habitat and food are also changing with climate. Due to their climate-sensitive nature, snowshoe hares are an important native species the Little River Band of Ottawa Indians focuses stewardship efforts on.

Young snowshoe hare hiding in autumn leaves.

Collaborative research projects with Grand Valley State University

---

Habitat use and survival of the climate-sensitive snowshoe hare (*Lepus americanus*) in the Manistee National Forest in Michigan's Lower Peninsula

Spencer West, MS student 2019

Snowshoe hares (*Lepus americanus*) are a wide-ranging lagomorph that are important forest herbivores and a popular game species throughout their range. Across the southern boundary of their geographic range, snowshoe hares are experiencing declines and possible extirpation due to increased predation pressure, competition for forage, degraded and fragmented habitat, and camouflage mismatch due to climate change. The most significant method of reversing the negative trends in snowshoe hare distribution is to increase and improve available hare habitat. A more specific habitat analysis for local regions will most effectively advise managers how to target habitat management. We radio-collared 11 snowshoe hares in the Manistee National Forest in Michigan's Lower Peninsula from August 2017-May 2019 to document their local habitat use. Snowshoe hares were found to use areas of higher understory density than available forest. Regenerating aspen stands provide this type of habitat, as aspen stands also had significantly greater understory density and total stem count than random available forest. However, snowshoe hares were found to experience lower understory density during leaf-off periods, due to a lack of available dense coniferous understory. Snowshoe hare survival increased in areas with greater proportions of aspen stands, but showed no trends associated with coniferous stands. In the Manistee National Forest, regenerating aspen stands will be a large determinant of the persistence, survival, and distribution of snowshoe hares in the immediate future.