

Northern Bog Lemming

(*Synaptomys borealis*)

Appearance This small brown rodent resembles other voles of the north woods. Grooved upper incisors, a short tail (19 mm), and a buffy-orange patch at the base of the ear can help identify bog lemmings. However, the northern bog lemming is nearly identical to the more common southern bog lemming (*S. cooperi*), and their ranges overlap. Distinguishing between northern and southern species can only be confirmed by examining their dental and skull characteristics.

Range Once found as far south as Kansas, northern bog lemmings have retreated northward since the last glacial advance about 10,000 years ago. Today, they occur as isolated relict populations in cool, moist habitats of Canada and the northern border states from Washington to Maine. First reported in Minnesota in Lake of the Woods County in 1932, they have been found at only five other locations in Roseau, Koochiching, and Itasca counties.

Habitat They typically live in open, wet habitats dominated by sphagnum moss, leather-leaf, sedges, and grasses. In Minnesota they've been found in northern acid peatlands, such as spruce bog, open bog, and poor fen.

Ecology Little is known about their habits, due to their low abundance. Their diet of herbaceous vegetation consists primarily of grasses and sedges; but they also eat snails, slugs, and other invertebrates. Hawks, owls, and weasels prey on northern bog lemmings.

Active during day and night year-round, they use trails of other wildlife or create their own runways by digging in soil, pushing away sphagnum moss, and chewing away other vegetation. They build globular nests of grass or sedge in burrows, under logs, in sphagnum hummocks, or on moss below the snow. Breeding season runs from May through August. Females typically give birth to four young after a gestation of about three weeks. One day after giving birth, females can breed again. Young become sexually mature when 5 to 6 weeks old.

Observation Look for small piles of bright green feces and small "haystacks" of clipped sedges or grasses among mossy runways in a northern bog.

Status Due to its rarity, the northern bog lemming is classified as a state species of special concern. Under Minnesota's comprehensive wildlife conservation strategy, *Tomorrow's Habitat for the Wild and Rare*, the DNR identifies it as a wildlife species in greatest conservation need.

Gerda Nordquist, mammalogist, *DNR Minnesota County Biological Survey*



a closer look at **CRITICAL HABITAT**

The northern bog lemming occurs in only two of the 25 ecological subsections highlighted in *Tomorrow's Habitat for the Wild and Rare: An Action Plan for Minnesota Wildlife*, including the Agassiz lowlands. In this subsection, the large, relatively undisturbed peatland known as the Big Bog serves as a critical refuge for the northern bog lemming. People can visit the Big Bog via a mile-long boardwalk at the Big Bog State Recreation Area (www.dnr.state.mn.us/state_parks/big_bog). To read more about the region and its conservation priorities, visit www.dnr.state.mn.us/cwcs/subsection_profiles.html.

