

Meadow vole

Microtus pennsylvanicus

By Shane Sater

In a cemetery near Helena there's a dense stand of blue spruce trees often inhabited by a pair of nesting great horned owls. Under the conifers, if you look closely, you may see furry gray pellets regurgitated by the raptors. Pull one apart, separating tiny bones and skulls from the wads of fur, and you're likely to find the remnants of a meadow vole.

I appreciate voles for the critical part they play in the diet of owls, hawks, and many other animals. At the same time, I find it much harder to like them when they girdle a fruit tree under the cover of winter snow. But love them or hate them, we're stuck with these small rodents—ubiquitous, important parts of the Montana landscape.

IDENTIFICATION

One of eight vole species in Montana, the meadow vole looks like a stubby-tailed mouse. Both voles and mice are mostly gray or brown and live and hide in grassy areas, but mice have much longer tails, and many have contrastingly white bellies. Shrews, small mammals of an entirely different order from rodents, also have short tails, but their snout is much pointier than a vole's.

Distinguishing a meadow vole from a montane vole or prairie vole is a challenge, requiring close study of the teeth of a live specimen or the remains recovered from an owl pellet. But because the meadow vole, found statewide, is Montana's most common vole species, there's a good chance you've seen one scurrying underfoot.

HABITAT

Look for meadow voles in wet areas with dense grass cover: hayfields, irrigated pas-

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SCIENTIFIC NAME

Microtus combines the Greek words *micro* (small) and *otus* (ear), while *pennsylvanicus* refers to the state where the first specimen was scientifically identified.

tures, meadows along rivers and near forest streams.

Montana's other voles mostly live in different habitats. The southern red-backed vole, for example, likes moist, old forests with ferns, mosses, and downed logs. The sagebrush vole digs extensive burrows in dry areas with sagebrush and rabbitbrush. The montane vole is usually found in dry grasslands on mountain slopes. Prairie voles prefer dry sites throughout eastern Montana.

PREDATION

When rough-legged hawks sweep down from the Arctic to overwinter in Montana each fall, they primarily hunt voles—close relatives of the lemmings that make up the raptors' diet on the northern tundra. When great horned owls feed their fluffy chicks in early spring, voles are on the menu. In the summer, voles are hunted by kestrels and red-tailed hawks, as well as rattlesnakes, garter snakes, weasels, and shrews.

REPRODUCTION

Because they are prey for so many predators, meadow voles must reproduce quickly and frequently. Breeding generally happens anytime from early spring through late fall, and pregnancy lasts just three weeks. Within two weeks after birth, the female weans her litter

of four to six young, raised in a spherical nest of fine grasses on the ground.

When the young meadow voles disperse in search of a new home, they are especially vulnerable to predators: Nearly 90 percent die within their first month. If a young vole manages to survive three weeks on its own, it's old enough to mate and start the cycle over again.

DIET AND BEHAVIOR

For meadow voles, thick grasses provide food, nesting sites, and shelter from predators. The rodents eat a wide variety of plants but favor grasses. In winter they make tunnels beneath the snow among dead grasses and shift their diet to seeds, roots, underground fungi, and, to the frustration of homeowners everywhere, the thin, delectable bark of fruit trees.

CONSERVATION STATUS

Meadow vole populations rise and fall cyclically, typically in two- to five-year intervals. Why and how these cycles happen remains a mystery of ecology. But despite the unexplained population fluctuations and the intense hunting pressure of hungry hawks, snakes, owls, and other predators, meadow voles remain common and widely distributed in Montana. 🐭