



Western (Boreal) Toad (*Bufo boreas*)

SAM STEWART; BONTERRA CONSULTING 2008

By John Fraley

Western Montana is home to only one toad species, the western toad. (Montana’s other two toads, Woodhouse’s and the Great Plains, live east of the Continental Divide.) The Montana form of the western toad is known as the boreal toad. Along with two other subspecies, it is found across the Pacific Northwest from southern California to Alaska. In Montana, it ranges from the Idaho border to the Rocky Mountain Front and even farther east in the Little Belt, Crazy, and Absaroka mountains.

These plump toads are adaptable amphibians. I’ve seen them around low-elevation lakes and woods but also in the high country of the Great Bear Wilderness, at the top of Lone Man Mountain in Glacier National Park, and on Columbia Mountain in the Swan Mountain Range. In fact, western toads have been found living at over 9,000

feet in the Madison Range. Kirwin Werner, a herpetologist and senior author of *Amphibians and Reptiles of Montana*, has encountered them on the Continental Divide in Glacier National Park, 1,500 feet above any water source. “You wonder how they got up there,” he says.

Appearance This squat, bloated-looking toad is 3 to 5 inches long. Its back is olive to brown, and the light green, whitish, or gray belly is covered in spots. A white stripe runs down the center of the back from the nose to the anus. The skin is covered with warts of various shapes and sizes. Females are larger than males and have a rougher and more blotchy skin. The boreal toad can absorb water through its smooth belly skin, and the bumpy skin on its back prevents drying. Boreal toads have big, gogglelike eyes, with large parotoid glands behind their eyes. The glands secrete a milky substance that is toxic to predators.

Sound Male western toads emit a series of high-pitched chirps, similar to the sound made by young geese. Herpetologists suspect

the toad chirps to attract a mate during the spring breeding season or to tell other males to stay away.

Food Boreal toads eat flies, ants, spiders, and dragonflies. Adults occasionally eat young toads or other small amphibians.

Reproduction In spring, boreal toads breed in puddles and pond and lake shallows. A male grasps a female with his thumb pads and then mounts her. The female lays thousands of eggs in a long string, which the male fertilizes as they exit her body. The eggs hatch in a week or two. The small, dark tadpoles remain in large groups before dispersing after they metamorphose into half-inch-long young toads. The toads become sexually mature after about four years.

Habitat Boreal toads live in a wide range of wet habitats, including forests, meadows, uplands, and marshy areas at nearly all elevations. They are mostly nocturnal but can be found during the day in cool weather or at higher elevations. Boreal toads hibernate in winter. They hibernate—and find refuge from summer heat—under logs, in rodent burrows, or by burying themselves in soft duff or dirt, sometimes more than a mile from water. Boreal toads have horny tubercles on their hind feet that aid in digging.

Behavior Unlike frogs, which leap from place to place, boreal toads shuffle along or move in short hops. When handled or threatened, they puff up, urinate, or emit a foul-smelling secretion from their warts. The secretion deters most predators, though coyotes, raccoons, snakes, ravens, and crows are known to eat boreal toads.

Status in Montana Boreal toads are found in many areas throughout western Montana, but no one is sure how the state’s overall population is faring. Werner says that based on his observations, the population seems “fairly stable.” But the Montana Natural Heritage Program notes that numerous surveys since the early 1990s indicate declining populations in some parts of western Montana. The state has listed the boreal toad as a “species of concern.” 🐸

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