

Northern Leopard Frog (*Lithobates pipiens*)

Family Ranidae

Subspecies: None currently recognized

Updated 2025



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Description/Identification: The Northern Leopard Frog is a mid-sized ranid frog ranging from about 1.9 to 3.5 inches in length, snout-to-vent length. The skin is smooth, moist, to somewhat warty, and the vocal sacs are internal. The pair of light cream, tan or whitish, or pale yellowish dorsal-lateral folds along the dorsum are very prominent, and the fore feet are non-webbed, with the hind feet being webbed. The head and snouts of Northern Leopard Frogs are also relatively narrow and pointed. Male and female Northern Leopard Frogs appear similar, although they are dimorphic in size. Males are smaller than females, have tympanic membranes smaller than that of the eyes (females have tympanic membranes equal to the size of the eyes), and males also have enlarged fore-limbs and enlarged/swollen “thumbs” and fore-digits for clasping onto the females during the breeding season. Inside the mouth, Northern Leopard Frogs and other ranid frogs have only very small, nonpedicellate (or incomplete) teeth on the maxilla and premaxillae weakly attached to the bone, which in many cases, are only calcified at their tips. Their teeth are perhaps most visible only through a high magnification electron microscope. Also inside the front of the mouths of most anurans, Northern Leopard Frogs included, is a projectile-like tongue made of extremely soft tissue, and which uses reverse adhesion and soft, viscoelastic properties coupled with non-Newtonian saliva.

Dorsum coloration of Northern Leopard Frogs can be quite variable, ranging from green, tan, brown or light brown, or mixtures of greens and browns in some individuals, with 2 to 3 rows of large, irregular spaced and shaped round to oblong black to chocolate brown dorsal blotches. These spots and blotches are often outlined in white or cream. Smaller dark spots are also interspersed along the sides, and the fore and hind limbs also have similarly colored dark spots, banding, or cross-bars. A patternless or nearly patternless variant rarely occurring in extreme western Wisconsin and Minnesota known as the “Burns” phase, was believed to have been a separate species, but have since been found to be simply a dominant gene of the Northern Leopard Frog.

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The undersides of Northern Leopard Frogs are predominately white or cream colored, with light suffusions of yellow along the sides and undersides of the hind legs. Northern Leopard Frogs may be confused with Pickerel Frogs (*Lithobates palustris*), which have more blunt snouts, two rows of more regularly spaced and shaped rectangular or square shaped lateral and dorsal blotches, and golden-yellow inner thighs and groins. However, in some populations where the ranges of the two species overlap, Northern Leopard Frogs can develop blotches very similar to those of Pickerel Frogs, perhaps as a form of mimicry, making some specimens even more difficult to distinguish. Pickerel Frogs are also never green in dorsal color. North American Green Frogs (*Lithobates clamitans*) may also sometimes be confused with Northern Leopard Frogs, but lack the lighter colored dorsolateral ridges, and have much finer, many smaller spots.



Tadpole. © Science Photo Library.

Northern Leopard Frog tadpoles are about 2.0 to 4.0 inches in length, and have a color of dark green or olive or olive-gray above dorsally with dark mottling, and the undersides are translucent. The iris is golden, and the eyes are situated near the top of the head. The tail fins are relatively clear, with few to no dark spots or mottling, and the papillae ventral to the third tooth row is small.



© WDNR.

Link to Audio/Call: [Northern Leopard Frog \(*Lithobates pipiens*\) \(youtube.com\)](https://www.youtube.com/watch?v=...)

Range and Distribution: Northern Leopard Frogs have a very large range in North America, spanning over much of southern Canada from Alberta to Quebec and Nova Scotia, and south into the Midwestern and Eastern United States to about Kentucky and West Virginia, and also broadly distributed in the Great Plains states, to the western United States as far as extreme eastern California, Oregon, and Washington, and southwest to Arizona and New Mexico, where populations in the western U.S. are widely introduced. In Wisconsin, Northern Leopard Frogs occur statewide.

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Habitat: Northern Leopard Frogs can be found in and near a wide variety of wet or moist habitats in Wisconsin. They may be found in wet prairies or wet meadows, pastures or old fields, sedge meadows, and along the margins of permanent to semi-permanent bodies of water or wetlands. These habitats can include along the margins of bogs, marshes, lakes, stream and river margins, prairie ponds or potholes, and kettle ponds, or river backwaters and floodplains, where they may stray up to a mile or further away from water during the summer, more so than most other Wisconsin ranid frogs. These frogs are also common in wetland and Great Lakes ridges and swales.

Feeding and Diet: Northern Leopard Frogs are primarily insectivorous, eating a wide variety of terrestrial or aquatic insects, insect larvae, worms, arachnids, snails or slugs, or other small arthropods and invertebrates, although other amphibian eggs or larvae may also be eaten (by both adults and tadpoles). The tadpoles feed primarily on algae and detritus material in their breeding ponds or wetlands.

Natural History and Call: In the springtime, from about late March through April and May, Northern Leopard Frogs begin to emerge from their overwintering locations in stream or lake banks underground, or from underneath and behind submerged rocks or logs, where they were buried under the bottom mud or debris, or from torpor on the surface, and begin to travel up to one or more miles to their breeding wetlands. They are stimulated by warm spring rains, and once they reach their semi-open or open breeding wetlands, begin to call from and amongst the shallow water and vegetation.

The calls of Northern Leopard Frogs sound like a low, guttural “snore”, lasting several seconds, or loud croaks sounding similar to rubbing a finger over a wet inflated balloon. Male Northern Leopard Frogs may also give a “chuckle” call as a spacing or territorial call towards other males. Northern Leopard Frog calls are usually lower in pitch, and can be harder to hear over other, more loudly calling frog species. Females will then deposit large masses of up to 5,000 or 6,000 eggs in a tightly clumped, globular mass attached to vegetation beneath the water’s surface.



Ventral/Belly View. © Gary Nafais.

The tadpoles hatch within about 10 to 20 days, and metamorphosis takes place by late June to mid-July, where they then metamorphose into adult frogs, and may be seen in large numbers. The young frogs usually remain closer to the water, where they may be uncovered by the hundreds amongst the grass. The adults, after breeding, leave their breeding ponds and wetlands and forage for food, where they may wander far from any water up to a mile or greater. Northern Leopard Frogs can often be found in moist

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areas farther away from water later in the spring and summer than most other Wisconsin ranid frogs.

Northern Leopard Frogs are strong and active jumpers, which serve as their primary means of defense along with their colors and patterns. They will leap in long, irregular strides to evade and/or confuse any potential-would be predators, with their dorsal patterns helping to break up the frog's outline and make them more difficult to pinpoint. They may also emit a high-pitched distress call if grabbed or seized.

Northern Leopard Frogs have also been highly susceptible to "red-leg" disease affecting formerly large populations of these, and other species of frogs, and are also susceptible to chemical and pesticide pollution, which have significantly impacted and reduced their populations in Wisconsin and elsewhere. Northern Leopard Frogs remain active in the year until October or November.

Natural predators of Northern Leopard Frogs and their tadpoles can include a variety of large, carnivorous or predatory aquatic insects and/or insect larvae such as water bugs and water beetles, dragonfly larvae, and large spiders, as well as turtles, fish, other frogs and/or amphibian larvae, snakes, a wide array of birds, and many different small to medium sized carnivorous mammals including opossums, skunks, raccoons, weasels, mink, foxes, and other mammals. Other large wading birds such as herons will also readily eat Northern Leopard Frogs.

Conservation Status: In Wisconsin, Northern Leopard Frogs are listed as "Common". They are still regulated and protected along with all other of Wisconsin's herptiles, however under N.R. 16. Northern Leopard Frogs are currently not protected or regulated federally. Northern Leopard Frogs are currently IUCN Red-List Least Concern (LC).