North American Bullfrog (*Lithbates catesbeianus*)

Family Ranidae

Subspecies: None currently recognized

Updated 2025

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Description/Identification: North American Bullfrogs are the largest species of frog in Wisconsin. They may reach between about 3.5 and 6.0 inches in snout-to-vent length, but are even larger when including their total leg length, which may be up to an additional 7.0 to 10.0 inches in length. Males and females are similar in appearance; however, their large, and well developed tympanic membranes and tympanic folds surrounding the membranes are evident and dimorphic. Male Bullfrogs have tympanums larger than the size of their eyes, whereas the tympanum membranes in females are equal to or smaller than the eyes. Males also develop enlarged forelimbs and inner-thumb digits used for clasping onto the females during amplexus. The fore feet are not webbed, but the hind feet are nearly fully webbed to the fourth and fifth digits of the toes. The overall skin is coarse, but can be smoother in younger frogs, and dorsolateral folds or ridges are absent in Bullfrogs, which distinguish them from Mink Frogs (*Lithobates septentrionalis*) and North American Green Frogs (*Lithobates clamitans*).

No subspecies are currently recognized. The head is very large, broad, and blunt, and the snout less pointed than in Green Frogs. The head, upper jaws, lips, and area around the tympanum may be a brighter green in color than the rest of the darker body and are usually unmarked. The dorsum ground color of the body may range from green or olive-greenish, greenish-yellow, bluish-green, green-brown, or brown. The dorsum may be un-patterned, or may be mottled with dark brown mottling or spots, and the limbs have similar dark barring, especially on the hind limbs. Spots or mottling may be more evident on juvenile and younger frogs, or in females which may also have reticulation patterning. Inside the mouth, North American Bullfrogs have a row of small, nonpedicellate (or incomplete) teeth on the upper maxilla and premaxillae weakly attached to the bone, which in many cases, are only calcified at their tips. Unlike many of Wisconsin's frogs, these teeth are large enough to be seen on the skull.

Tadpole. © Gary Nafais.

Also inside the front of the mouths of most anurans, North American Bullfrogs included, is a projectile-like tongue made of extremely soft tissue, and which uses reverse adhesion and soft, viscoelastic

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properties coupled with non-Newtonian saliva. The undersides or ventral areas of Bullfrogs are usually white or cream colored with darker grayish mottling or reticulations as well. The chins, throats, and vocal sacs of males also develop a much more vibrant yellow or yellow-orange in males during the breeding season. The tadpoles are very large, and are similar to Green Frog tadpoles in appearance (described in further detail under Green Frogs), but may reach up to 80 to 150 mm. in size, and the dorsal fins are finely mottled on the upper half. The body of the tadpoles also have more distinctly rounded spots rather than flecks or bars.

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Link to Audio/Call: American Bullfrog (Lithobates catesbeianus) (youtube.com)

Range and Distribution: North American Bullfrogs have an extremely large and broad range, and can be found naturally from portions of southern to southeastern Canada, from southern Ontario and Quebec, throughout the New England/Northeastern, Eastern, and Central United States. They have also been introduced extensively in California and elsewhere in the western U.S. In Wisconsin, Bullfrogs can occur throughout the state, statewide, but can be difficult to distinguish natural from introduced occurrences. They are generally more common and widespread in northern Wisconsin, and often more localized in the southern half, however.

Habitat: North American Bullfrogs are habitat generalists, and can be found in or near most types of permanent water bodies and wetlands. They may be found amongst ponds (including stormwater retention and ornamental ponds), around bogs, ditches, lakes, slow moving sections of rivers and streams, marshes, river and floodplain backwaters, or other types of similar permanent water habitats. They are also an undeveloped shoreline dependent species, along lakes or large rivers with ample submerged vegetation. These types of undisturbed habitats are generally the factors leading to them being more common in northern Wisconsin, as mentioned above.

Feeding and Diet: North American Bullfrogs are opportunistic and voracious eaters, eating a wide variety of terrestrial to aquatic insects and insect larvae, arachnids, mollusks such as snails, crayfish and other crustaceans, and other arthropods and other invertebrates. Bullfrogs are large enough to consume even many smaller vertebrates they are able to catch and consume, including other amphibians, and their eggs and larvae, small fish, smaller reptiles such as small snakes and hatchling turtles, and even small rodents or small or young birds. Their reputations for having significant impacts on waterfowl populations tends to be exaggerated, and not really true, however. The tadpoles are omnivorous, feeding

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on aquatic algae or other plants, bottom detritus, and occasionally other amphibian eggs and larvae.

Natural History: North American Bullfrogs are among the last of Wisconsin's frog species to call and begin breeding in the year. They may emerge and become active as early as late April to Mid-May, but do not begin calling or breeding until June through mid-July. Their loud, resonating, deep calls are very distinctive, and are unlikely to be confused with any other Wisconsin frog species. Their deep, bellowing calls, hence the name "bull" frog, may sound like a "jug-o-rum…jug-o-rum…" or a "ruuumm…rummm…". Bullfrogs are active and powerful jumpers, and may cover as much as two meters in a single leap, and they may also emit a loud and piercing wail or distress "scream" lasting anywhere from 3 to 9 seconds with their mouths closed as a defense mechanism to startle predators.

Male Bullfrogs often call away from shore, as far out as 15 to 30 meters while floating in water 2 to 3 meters or more deep. During the breeding season, males are highly territorial, and defend their home territories of up to a 3 meter radius around them, and may emit a territorial warning call sounding much like a "hiccup" when other males approach too closely. Males will also sometimes fight, which might entail pushing, grabbing, and shoving until one or the other leaves the area. Males sit calling high up in the water to attract females, as well as assuming this high posture to threaten other males.

Bullfrogs will then lay very large egg masses comprised of as many as 1,000 to 5,000 or more eggs laid in large surface films several layers thick. Upon hatching, Bullfrog tadpoles have very long development periods, and may overwinter and not fully transform into adult frogs for as much as 2 to 3 years to fully mature. When they do, Bullfrog tadpoles usually fully metamorphosize by July or August of their second or third year. As a defense, newly metamorphosized and younger frogs will also often emit a loud, "yelp" or "gulp" like alarm or distress call prior to leaping into the water , or leaping across the water in several, short, fast, and energized bursts or leaps before diving underwater. Green Frogs rarely make these series of leaps, or emit distress calls when they are disturbed.


Ventral/Belly View. © Herps of Arkansas.

Bullfrogs are widely hunted and exploited due to their large sizes, for their meat, and particularly for "frog legs". They are also susceptible to shoreline development, and seem to decline or become more localized in light of urbanization and development. The biological and medicinal supply trades also heavily utilize and exploit Bullfrogs for research as well. All of these factors, along with their long

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development periods, are ones which have contributed significantly to population declines in these large frogs over time. Bullfrogs are active throughout the year until October or November, where they will then overwinter deep within lake, river, pond, or stream banks and beds, under the bottom substrate and sediments, or on the surface in a state of torpor in deeper water.

Natural predators of North American Bullfrogs 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 large 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 North American Bullfrogs.

Conservation Status: In Wisconsin, North American Bullfrogs are listed as “Common”. They are still regulated and protected along with all other of Wisconsin’s herptiles, however under N.R. 16. They may also have further county-specific protections, such as in Jefferson County, where they are “Protected/Special Concern”. North American Bullfrogs are currently not protected or regulated federally. North American Bullfrogs are currently IUCN Red-List Least Concern (LC).