

Wildlife Express

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FROGS & TOADS

INSIDE:

Idaho Frogs and Toads
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MEET IDAHO'S AMPHIBIANS

Have you ever caught a frog, or just seen one? If you have, you probably know it's an amphibian. Amphibians are one of nature's most interesting animal groups because they often span two different worlds—land and water.

Amphibians are cold-blooded animals that live in both places. The three categories of amphibians include frogs, salamanders and caecilians (wormlike animals with poorly developed eyes). Idaho is home to 14

amphibian species, nine of which are classified as “frogs,” including the nonnative North American bullfrog. Caecilians are not found in Idaho.



North American Bullfrog (*Lithobates catesbeianus*)



Western Toad (*Anaxyrus boreas*)



Boreal Chorus Frog (*Pseudacris maculata*)



Woodhouse's Toad (*Anaxyrus woodhousii*)



Sierran Treefrog (*Pseudacris sierra*)

MORE IDAHO AMPHIBIANS



Rocky Mountain Tailed Frog (*Ascaphus montanus*)

Great Basin Spadefoot (*Spea intermontana*)



Northern Leopard Frog (*Lithobates pipiens*)

Columbia Spotted Frog (*Rana luteiventris*)



FROG OR TOAD?

What is the difference between a frog and toad? All toads are frogs, but not all frogs are toads. Toads is a category of frogs that is characterized by their drier, bumpier skin, stouter bodies and shorter legs for crawling and short jumps on land. The frogs we commonly think of as, well—frogs, tend to have smooth, moist skin, slender bodies and longer legs for leaping and swimming.

Both frogs and toads undergo amazing changes as they're born in water and essentially live like fish for the early stages of their life. They undergo a unique metamorphosis by growing legs, moving onto land and then move freely between the two.





NO WATER, NO FROGS

Charles R. Peterson



Boreal Chorus Frog Photo: CC-BY Chuck Peterson at Flickr Creative Commons

Water is essential for all amphibians throughout each stage of metamorphosis. Water helps to keep their jelly-like eggs wet, and without it, the eggs would dry out, and the developing tadpole would die.

In their second stage of life, the larval tadpole stage, they're hatched from an egg and remain in water, breathing through gills and using their broad tail for swimming.

In the third stage, they are called froglets as they grow legs, their tails disappear, and they develop lungs and can breathe air, but still need to be in water, or in a damp environment.

Northern Leopard Frog Eggs Photo:

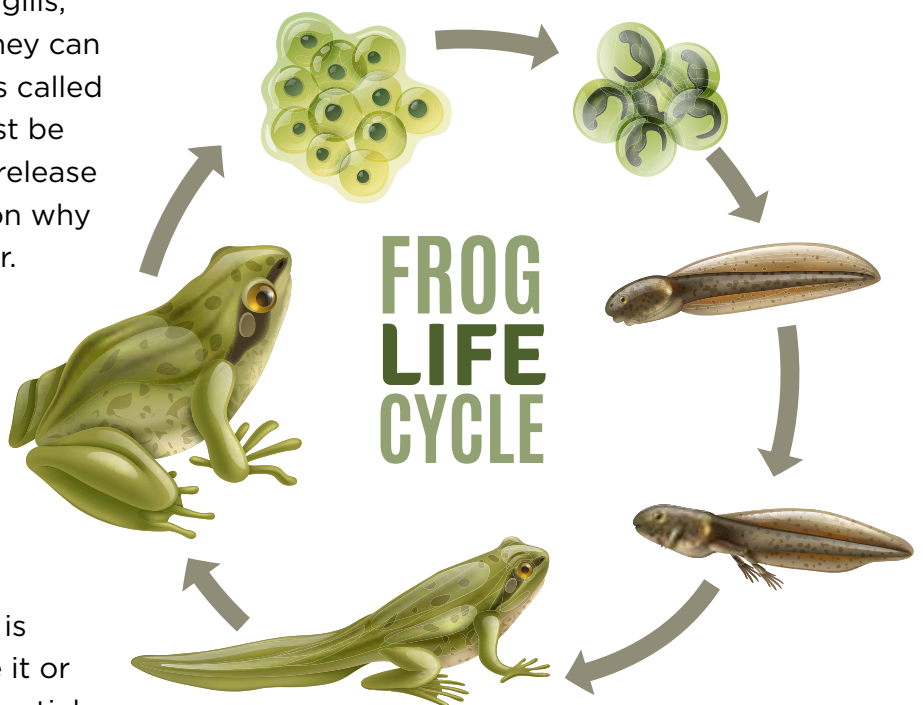
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THREE WAYS TO BREATHE

As mentioned, tadpoles are born with gills, then as adults, frogs have lungs, but they can use their skin to breathe as well. This is called “cutaneous respiration.” Their skin must be moist for them to absorb oxygen and release carbon dioxide, which is another reason why it’s critical for them to be around water.

Frogs shed their skin, and depending on the species, it can be as often as daily to several weeks. Shedding allows the animal to accommodate their increasing size and removes dead skin and parasites. It also helps them to breathe through their skin more easily. After being shed, the skin is often eaten up by the shedder. Believe it or not, the nutrients it gives them are essential.





BIG EYES BETTER TO EAT YOU WITH

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Frogs are opportunistic feeders. This means they will eat anything they can get their sticky tongues on. Most species are considered to be carnivores and insectivores, and will eat insects, worms, slugs, and spiders. Frogs will not pass up the opportunity if something larger comes along, like a rodent, snake or another frog. Frogs take aim and launch their sticky tongue, and the prey sticks to it. Then the prey is swallowed whole.

Frogs' large eyes actually help them swallow! The eyes sink through openings in the skull and help push food down the throat. This is why frogs seem to blink as they eat.

Another trait of frog eyes is they are widely spaced to give them extra wide vision. They also have an external eardrum to sense vibrations, so a frog leaping into the water as you approach may have seen, heard, or felt you.

Frogs' coloration tends to match their environment. Their lightly colored underbelly helps them blend with the sky while swimming to make them harder to see when something is looking at them from below. Their darker backs help them blend into the ground or plants when viewed from above. Light stomachs and dark backs are a common camouflage pattern in the animal world. It is called countershading, and you've likely noticed it with birds, squirrels, fish, and snakes.





WHAT ABOUT WINTER?

Because they're a cold-blooded, water-based animal, and because Idaho winters are cold, amphibians need a way to survive weeks and months of frigid weather and frozen waterways.

As children we learn that snakes, bears and ground squirrels "hibernate." True hibernation is a winter survival strategy used by only a few Idaho mammals, and at least one bird (Common Poorwill).

Looking closer at those who "hunker down" to survive cold months, the true definition of "hibernate" applies to ground squirrels and marmots, and includes drastic changes to body temperature, heart rate and metabolism. During true hibernation, waking up is unlikely until the winter is over.

"Torpor" is another term that is similar to hibernation, but involves short-term controlled slowing of body functions and waking up on warmer days to eat and eliminate waste. Torpor is common in chipmunks, skunks, bears, bats and chickadees and lasts from hours to weeks, depending on the species.

Amphibians rely on "brumation," which is a state of dormancy that cold-blooded (amphibians and reptiles) animals use to survive winter. Frogs, turtles and snakes brumate during winter, which is a deep reduction in body temperature, breathing, and metabolism, but can include waking to drink water and move around slowly.

COLUMBIA SPOTTED FROG

Columbia spotted frogs can be found across much of northern and central Idaho and in a geographically separate population in the southwestern corner of the state. The only place you are not likely to see spotted frogs is within the Snake River Plain, a broad band across southern Idaho.

Spotted frogs have spots, but many frogs have spots. How do you know you are looking at a Columbia spotted frog? The one feature that sets them apart from other Idaho frogs is a light-colored stripe that runs along the jaw.



Photo: CC-BY Idaho Fish and Game

Once the snow melts and water temperatures warm up, Columbia spotted frogs begin to breed. Males gather in shallow water and call during the day. The males' calls sound a bit like soft "clucks" or "thumps." The females lay their eggs by the males that have the best sounding "clucks."

Spotted frog tadpoles are brownish green in color with gold flecks on their backs. Their bellies are silvery. You can even see spotted frog intestines through their skin!

Eggs are laid in a ball-shaped mass of jelly. Each ball may contain up to 2,400 eggs. The eggs hatch in three to 21 days. It all depends on the temperature of the water; the warmer the water the faster the eggs will develop.

Tadpoles may complete their metamorphosis into adult frogs by fall, or they may stay tadpoles through the winter and change in the spring. They won't start to breed until they are two to six years old.

Columbia spotted frogs eat just about anything that wanders too close, if they can fit it in their mouths. The adults' diet includes snails, insects and spiders. The tadpoles eat bits of plants and tiny organisms in the water. Spotted frogs need to look out for bullfrogs, herons and other predators.

Columbia spotted frogs brumate (akin to hibernation) during the cold winter. In hot months, they may aestivate, which means that they "sleep" for periods of time when it is too hot or dry. A small mammal burrow, the undercut of a stream bank or a deep lake or pond are the best places for them to stay until the temperature gets better.



ROCKY MOUNTAIN TAILED FROG

This frog is categorized as a Species of Greatest Information Need (SGIN) in the Idaho State Wildlife Action Plan (SWAP).

SGIN status means the species is potentially at-risk but for which current scientific knowledge and expert understanding are lacking.

This frog is only found in the Pacific Northwest. In Idaho, it is found in central, north central and northern Idaho near cool, fast-moving streams. Tailed frogs cling to rocks in fast streams by using their rough skin and specialized toes. Interestingly, if a tailed frog is found in a stream, you know that it's a pristine stream ecosystem.

This little frog will grow to be about two inches long. It varies in color from brown to green to gray to reddish. There is a dark stripe on each eye. This frog doesn't use vocalizations, and it lacks eardrums.

Although they're all called tailed frogs, only the males have a tail. These frogs are capable of internal fertilization of the female's eggs. Their tail makes this possible and helps to make sure that the eggs are fertilized in fast flowing water.

The female lays 30 to 90 fertilized, sticky eggs under rocks in the stream. The eggs will hatch in about two months. Tailed frog tadpoles are a bit different than other tadpoles. They are born with a mouth that has a big suction cup on it. They hold on to the rocks with their mouths. This way they won't get washed downstream with the current. Tailed frog tadpoles may not turn into adults until they are four years old.





WESTERN TOAD

Western toads are designated a Species of Greatest Conservation Need (SGCN) in the Idaho State Wildlife Action Plan (SWAP). This means they are experiencing population declines or facing significant threats that, without intervention, likely will make them increasingly vulnerable or continue to decline.

Western toads are found across Idaho from mountain meadows to brushy deserts. They are well camouflaged in these areas. Their camouflage helps them to stay hidden while waiting for prey. They will eat bees, beetles and spiders.

Western toads are big! They may be up to five inches in length. They are tan, gray, green or brown in color. A light-colored stripe runs along the center of their back. Their skin is bumpy and covered with warty looking poison glands

for protection. Western toads taste awful to predators!

Western toad males do not have a mating call, but they do make sounds that can be heard. They will make a rapid chirping when handled by humans. Females lay between 6,000 and 17,000 eggs. The eggs are laid in a double-stranded string that may be up to six feet long.

The tadpoles are very dark in color and are often seen in large swarms swimming in shallow ponds and lakes.

Western toads dig burrows or use the burrows of small mammals to avoid the cold of winter or escape the heat in summer. During hot summer days, they stay safe in a burrow and come out at night to eat insects, spiders, sowbugs and earthworms. During the cooler months of fall and spring and at higher elevations, they are active during the day.



BUILDING FROG HABITAT

By Deniz Aygen

In remote corners of Idaho, where creeks curve through meadows and beavers build their dams, native frog populations are showing signs of recovery. In spring and summer 2024, IDFG biologists and volunteers surveyed four creeks in the Owyhee Mountain range to track the Columbia Spotted Frog, a native amphibian that has declined across much of the West.

Columbia Spotted Frogs are more than just a native species, they're indicators of stream health. Because they depend on clean water and stable wetlands, tracking their presence helps biologists gauge the success of restoration efforts. Survey teams focused on prime frog habitat like shallow ponds, beaver wetlands, and slow-moving streams, using consistent methods each year to count and record frogs and tadpoles by life stage.

At each site, IDFG biologists installed beaver dam analogs, or BDAs—human-made structures designed to mimic natural beaver dams. By slowing and spreading water flow, BDAs reduce erosion, boost riparian vegetation and improve stream function. They also create excellent

amphibian habitat as Columbia Spotted Frogs are often found in the calm backwaters and ponds these structures form. In the Owyhee Mountains, BDAs are proving to be a win-win for habitat restoration and wildlife recovery.

Survey results in 2024 showed both progress and challenges. At one creek, frog occupancy dipped slightly from 2023, but over 600 tadpoles were counted, twice the previous year's total, likely due to earlier survey timing. Another creek where no frogs were found in 2023, showed a hopeful turnaround with 17 adults recorded. A third location proved especially productive with 33 adults and 150 tadpoles. The last creek was dropped from the survey after two years without frog detections and limited habitat potential.

By returning to these streams each year and documenting frog life stages, biologists are gaining insight into how amphibians respond to management tools like BDAs. These findings will help guide future conservation efforts across the West. Surveys will continue with hopes for more frogs, and healthier streams, ahead.



Northern Leopard Frog (*Lithobates pipiens*)

Photo: CC-BY Chuck Peterson at Flickr Creative Commons

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