

Chirp

Croak

Snore

Spring brings a wakeup call to Minnesota's **frog** and **toad** orchestra.

**IT'S** THE FIRST WARM DAY OF APRIL. The sun is shining on frosty leaves littering the ground near the edge of a pond. Huddled under leaves against a fallen log, a tiny hibernating frog feels the slight change in temperature. As the air about him warms, he wriggles out of his winter nest, hops around, and finds his way to the water. He fills his throat with air from his lungs, making the skin beneath his mouth look like a balloon being blown up.

"Bre-e-e-p!" he calls. Spring has come to his world.

Minnesota has 14 species, or kinds, of frogs and toads. All across the state, millions of frogs and toads spend the cold season—from about October to March or April—hibernating in the ground or under water, rocks, logs, or fallen leaves. As the air and water cool, their body temperatures drop. Some frogs and toads freeze solid, like ice cubes.

With not much going on inside them, frogs and toads can survive on tiny amounts of air that filter into their bodies. Then, when the weather warms, they wake from their long naps. Their chirps, croaks, and snores fill the air as they begin a new cycle of life.

By

Mary

Hoff

The American toad can be found all around Minnesota. It is the state's most common toad.

# Amphibians

Frogs and toads belong to a group of animals called *amphibians*, from Greek words meaning “two kinds of life.” Most frogs and toads live part of their life in water and part of it on land.

## New Life for Wood Frogs



1 Have you heard a chorus of frogs or toads calling from a pond? The males are calling for female mates. When a female hears the call, she hops over to the pond and finds a mate. The male clings to the back of the female as she releases her eggs—sometimes thousands of them—into the water. Each egg is a tiny ball of jelly surrounding a dark

cell. The male covers the eggs with a fluid called *milt* that contains *sperm*. An egg and sperm combine to make an *embryo*.



2 The eggs are often attached to vegetation in the water. Fish and ducks eat some of them. In other eggs, the tiny dark cell gradually changes shape. The embryo becomes a fishlike tadpole. After a few

days to a couple of weeks (depending on the species of frog or toad), the tadpoles inside the egg hatch.



3 There's something fishy about tadpoles: Like fish, they use gills to breathe and a tail to swim. They move through the water eating tiny plants and dead things floating around them.



4 Imagine changing your shape completely as you grow! That's what happens to tadpoles. Gradually, the tadpole develops two lungs and four legs, which it will need to live on land. As the new body parts form, the tail and gills disappear. Depending on the species, a tadpole might take two months or two years to become an adult frog or toad.



5 Just as some people like to live in the city and others like to live in the country, adult frogs and toads have many different lifestyles. Some species stay in or near water. Others live in the forest. Others thrive in dry fields and grasslands. Some

eat insects. Some eat worms. Some even eat birds and fish. All frogs and toads can become food for other kinds of animals, including raccoons, turtles, and snakes.

One to three years after they transform from tadpoles, most frogs and toads

are old enough to make new frogs and toads—and the cycle of life begins again. How long a frog or toad lives depends on the species and how well it avoids danger. Some species live only a year or two. Others can live four years or more.



In Minnesota, wood frogs begin looking for mates as soon as the ice disappears from ponds between late March and early May.

PHOTOS BY ALLEN BLAKE SHELDON

Family

of

True Frogs

**True frogs** have webs between their back toes. Most spend winter on lake or pond bottoms. Measured from end to end (snout to vent), female frogs are usually bigger than males are. True frogs on these two pages are arranged from biggest (bullfrog) to smallest (wood frog).

PHOTOS BY ALLEN BLAKE SHELDON



**Bullfrog** (*Lithobates catesbeianus*)

Bullfrogs are native to Houston and Winona counties in southeastern Minnesota. They live in lakes, ponds, and rivers. This giant can be 8 inches long—big enough to eat fish, turtles, and birds. Bullfrogs mate in June and July. When calling, the male makes a deep “rum” sound once a second, repeated five or six times. He defends a territory up to 18 feet across.



**Green Frog** (*Lithobates clamitans*)

A green frog is not always green. It can also look brown, bronze, or bluish. Green frogs live in or near streams and other waterways in eastern Minnesota. They like to eat fish. This is the second-largest true frog, but it is only 4 inches long, half as long as a bullfrog. Males call from June into July. The male calling for a mate sounds like a banjo being plucked.

**Northern Leopard Frog** (*Lithobates pipiens*)

Leopard frogs have spots. They live throughout Minnesota in wet fields and all kinds of water. They like to hop around in rain. On a rainy night, you might see lots of them crossing roads. They can grow to be 3½ inches long. They breed from April into May. A male’s call sounds like snoring, followed by chuckles.



**Mink Frog** (*Lithobates septentrionalis*)

These medium-size frogs (about 3 inches) live mainly in the northern half of Minnesota. They spend most of their time in water. Look for one sitting on a lily pad. If you caught one, you’d discover it stinks like a mink. In late May or early June, the male starts calling as he floats. You might think his “knock, knock, knock” call sounds like a creaky rocking chair.



**Pickerel Frog** (*Lithobates palustris*)

These frogs spend winter under water in the southeastern corner of Minnesota. They like to be in or near rivers and streams. A pickerel frog is about the size of a chicken egg. Its skin gives off a bad-tasting chemical that most predators don’t like. Males begin making their deep-snore calls from shore or under shallow water in late April or early May.



**Wood Frog** (*Lithobates sylvaticus*)

Who is that masked frog? The wood frog hibernates in the woods under leaves and logs. During hibernation it stops breathing, its heart stops beating, and ice forms inside its body. In spring the males head to a pond and start calling. They fill the air with their chuckling quacks as early as late March.



# Treefrog Family

**Treefrogs** are tiny—some less than an inch long—and more often heard than seen. They have toe pads that help them cling to trees (and sometimes windows). Species with large pads can climb high in tall trees to find insects to eat. In winter they hibernate in fallen leaves or under rocks or logs. Female treefrogs lay their eggs one at a time or in small clusters, attaching them to plants in the water.

PHOTOS BY ALLEN BLAKE SHELDON



## Spring Peeper

*(Pseudacris crucifer)*

This tiny frog has a dark X on its back. It can survive being partially frozen under leaves or a log in winter. In early spring, it moves into pools of melted snow in northern and eastern woodlands. If you hear peeping like baby birds in April, you might be listening to male peepers calling. All together, they sound like an orchestra of jingle bells.



## Boreal Chorus Frog

*(Pseudacris maculata)*

This marble-sized frog, one of Minnesota's tiniest, has stripes. Though it's a treefrog, it is not a good climber. Once called the western chorus frog, it lives in grassy wetlands statewide. Males begin calling in late March or early April. Like a chorus of singers, they call in a group. If one chorus frog hears you coming, he stops calling. Then the whole chorus stays quiet for a while.

## Eastern Gray Treefrog

*(Hyla versicolor)*

With big, sticky pads on its toes, this frog can easily climb trees in the forests where it lives. You might think it is gray because of its name. But it can switch between gray and green, depending on air temperature, colors around it, and how active it is. Tadpoles have red-tipped tails and adults have yellow inner thighs. In May the male calls with a slow, musical trill.



## Cope's Gray Treefrog

*(Hyla chrysoscelis)*

Like the eastern gray treefrog, this frog is a great climber. It can easily climb on windows. Tucked under leaves or logs, gray treefrogs freeze almost completely in winter. The two gray treefrog species can look alike. In spring, listen for the males calling from wetlands. Eastern gray treefrogs have a birdlike musical trill. Cope's gray treefrogs make faster, buzzy sounds.



## Blanchard's Cricket Frog

*(Acris blanchardi)*

Once known as the northern cricket frog, this thumbnail-sized frog lives in the southern corners of Minnesota. It emerges from underground hibernation in late April. A super jumper, it can leap 3 feet in a single bound. Males call in a chorus from the water or shore, often during the day. The male's "glick, glick, glick" call sounds like two small stones clicking together.



**Toads** are different from frogs in many ways. Toads have dry, bumpy skin rather than smooth skin like frogs. With its short legs and plump body, a toad can walk or hop. A frog can leap long distances with its long legs. The female toad lays eggs in long strings rather than clusters like a frog. Minnesota's full-grown toads are about 3 inches long.

If a toad feels threatened, it tries to scare away the predator by inflating its body and peeing. A bad-tasting liquid can form like sweat on its skin. Touching a toad does not cause warts.

Toads burrow into the ground to hibernate in winter. Sometimes they burrow in summer to escape the heat.



JEFF LECLERE, HERPNET.NET



STAN TEKIELA

### Great Plains Toad (*Anaxyrus cognatus*)

These toads have dark spots with warts and a white belly. They live in Minnesota's western grasslands. Thunderstorms in mid-May signal this toad to come out from underground and begin calling. The male calls with a long trill—rrrrrrr. The female lays eggs in wet farm fields. This toad is most active at night and often goes underground to stay cool during the day.

### Canadian Toad (*Anaxyrus hemiophrys*)

This toad has a big bump between its eyes. Look for Canadian toads near water in northwestern Minnesota's prairies and aspen parkland. In winter these toads gather in mounds of soil, perhaps made by gophers. Several hundred toads might burrow into each mound. Males leave the mound in late April or early May to begin calling for a mate. The male calls with a short trill that lasts 2 to 8 seconds.

### American Toad

(*Anaxyrus americanus*)

These toads look like Canadian toads without a bump between the eyes. American toads live all over the state in fields, woods, parks, and back yards. They are most active at night. In spring

males call with a high trill—rrrrrrr—lasting as long as 30 seconds. Females lay up to 20,000 eggs at once. Like many other frogs and toads, the American toad snaps up insects with its tongue. ⑦



ALLEN BLAKE SHELDON

## BITS

**Hear All About It!** Watch videos of frogs and toads and listen to spring calls at [www.herpnet.net](http://www.herpnet.net).

For more information on frogs and toads, including updated names, see the 2014 book *Amphibians and Reptiles in Minnesota*, by John J. Moriarty and Carol D. Hall, published by University of Minnesota Press.



**Be a Frog Science Friend.** You and a grownup can help keep track of frogs and toads by volunteering for the Minnesota Frog and Toad Calling Survey. Go to [www.dnr.state.mn.us/volunteering/frogtoad\\_survey/index.html](http://www.dnr.state.mn.us/volunteering/frogtoad_survey/index.html) to learn more.

### NOTE TO TEACHERS

Find links to teachers guides for this and other stories at [www.mndnr.gov/young\\_naturalists](http://www.mndnr.gov/young_naturalists).

A Thousand Friends of Frogs at the Center for Global Environmental Education provides classroom resources online at <http://cgee.hamline.edu/frogs/resources/tjof>.

Learn how to add a pet to your classroom at [www.dnr.state.mn.us/eco/nongame/classroom-pets.html](http://www.dnr.state.mn.us/eco/nongame/classroom-pets.html).