FrogWatch

Frogs of Eastern Canada

Ontario to Atlantic Coast
(Frogs of Western Canada also available)

BULLFROG *Rana catesbeiana*

- 9–15.2 cm
- Found in every eastern province except Prince Edward Island and Newfoundland and Labrador
- Call is a deep and loud "Jug-o-rum"
- Calling begins in early summer
- Green to brown with no dorsolateral line along back
- Fold of skin from eye and around eardrum
- Male has bright yellow throat and eardrum twice the size of the eye
- Breeds in permanent wetlands

GREEN FROG *Rana clamitans*

- 5.7–9 cm
- Found in every eastern province (introduced to Newfoundland and Labrador)
- Call is a twang like a loose banjo string
- Calling begins in late spring or early summer
- Green with dorsolateral lines the full length down the back
- Dark crossbands on legs
- Male has a yellow throat and the eardrum is twice the size of the eye
- Breeds in permanent wetlands

SPRING PEEPER *Pseudacris crucifer*

- 1.9–3.2 cm
- Found in every eastern province
- Call is a series of short "peeps," sometimes forming trills
- Calling begins in early spring
- Brown to tan
- Dark cross-shaped mark on back
- Breeds in a wide variety of habitats, from ditches to swamps

NORTHERN CRICKET FROG *Acris crepitans*

(Subspecies found in Canada is Blanchard's Cricket Frog)

- 1.6–3.8 cm
- Only found on Pelee Island in Ontario
- Call is like the steady clicking of pebbles
- Calling begins in early spring
- Red to brown in colour with brown or black blotches
- Dark triangular mark between the eyes
- Breeds in open, permanent wetlands

Produced through the cooperation of:

Nature Canada

Environment Canada / Environnement Canada

ANSWER THE CALL

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NORTHERN LEOPARD FROG *Rana pipiens*

- 5.1–9 cm
- Found in every province
- Call is a guttural snore followed by a series of "clucks" similar to a wet finger rubbing a balloon
- Calling begins in mid-spring
- Green to brown
- Dark roundish spots, encircled by light ring
- Breeds in open, temporary or permanent wetlands

GRAY TREEFROG *Hyla versicolor*

- 3.2–5.1 cm
- Only found in Ontario, Quebec and New Brunswick
- Call is a short, bird-like trill
- Calling begins in late spring
- Light green to grey
- Squarish, light-coloured spot under each eye
- Inner thigh bright orange or yellow
- Breeds in a variety of wetlands associated with shrubs

WESTERN (STRIPED) CHORUS FROG *Pseudacris triseriata*

- 1.9–3.9 cm
- Found only in southern Ontario and Quebec
- Call sounds like a finger running down the teeth of a comb
- Call very similar to Boreal Chorus Frog
- Calling begins in early spring
- Light brown, with three dark, sometimes broken stripes down back
- Breeds in temporary or permanent wetlands in open areas

BOREAL CHORUS FROG *Pseudacris maculata*

- 1.9–3.7 cm
- Only found north and west of Lake Superior in Ontario and near James Bay in Quebec
- Call sounds like a finger running down the teeth of a comb
- Call very similar to Western (Striped) Chorus Frog
- Calling begins in early spring
- Brown to green
- Three dark, sometimes broken stripes down back
- Breeds in temporary or permanent wetlands in open areas

Illustrations approximately actual size

MINK FROG *Rana septentrionalis*

- 4.8–7 cm
- Found in every eastern province except Prince Edward Island
- Call is a series of "pops" or the sound of someone hammering in the distance
- Calling begins in late spring or early summer
- Green with scattered dark spots on back
- Dorsolateral lines do not extend the full length down the back
- No crossbands on legs
- May have musky odour when handled
- Breeds in permanent wetlands

AMERICAN TOAD *Bufo americanus*

- 5.1–9 cm
- Only toad in most of Eastern Canada
- Call is a musical trill lasting up to 30 seconds
- Calling begins in mid-spring
- One or two "warts" per dark spot on body
- White belly covered in dark spots
- Males have a dark throat and tend to be smaller than females
- Breeds in a wide variety of habitats, from ditches to marshes

FOWLER'S TOAD *Bufo fowleri*

- 5.1–7.5 cm
- Only found on the north shore of Lake Erie in Ontario
- Call is a nasal "Waaah," like a baby crying
- Calling begins in mid-spring
- Usually three or more "warts" per dark spot on body
- White belly not covered in dark spots
- Breeds in open ponds along the lakeshore

PICKEREL FROG *Rana palustris*

- 4.4–7.5 cm
- Found in every eastern province except Prince Edward Island and Newfoundland and Labrador
- Call is a snore, faster and higher pitched than the Northern Leopard Frog
- Calling begins in mid-spring
- Brown with squarish spots
- Lower belly yellow to orange
- Breeds in open, temporary or permanent wetlands

WOOD FROG *Rana sylvatica*

- 3.5–7 cm
- Only frog found in every province and territory
- Call is a duck-like quack
- Calling begins in early spring
- Brown to tan with black face mask
- Breeds in wooded, temporary or permanent wetlands

Illustrations supplied by torontozoo.com/adoptapond

FrogWatch

WHAT IS FROGWATCH?

Frogwatch is a national volunteer monitoring program that helps identify ecological changes that may be affecting our environment. Using simple monitoring methods created by scientists working with Environment Canada's Ecological Monitoring and Assessment Network (EMAN), it allows Canadians of all ages to participate in discovering how—and, more importantly, why—our natural environment is changing. The answers to those questions will be used to make recommendations to our government leaders to help them create a better environment for all Canadians.

WHY MONITOR FROGS?

A variety of factors make frogs more susceptible to environmental changes than many other groups of organisms.

- AMPHIBIOUS LIFE HISTORY. Because most frogs spend part of their life in the water and part on land, changes to either habitat may affect them. In addition, their transformation from tailed, gill-breathing creatures into four-legged air breathers is a complex process. Some chemical pollutants can act as hormones, interfering with this metamorphosis and possibly causing deformities.
- PERMEABLE SKIN. Frogs keep from dehydrating by absorbing water through their skin. This makes them prone to absorbing toxic chemicals or microorganisms through their skin as well.
- UV SENSITIVE. Typically, frog eggs float in a jelly-like mass at or near the surface of the water. As ultraviolet levels increase around the world due to the thinning of the ozone layer, eggs are exposed to more harmful (and possibly lethal) radiation. Frog eggs can't move out of the sun or apply sunblock.
- CLIMATE SENSITIVE. Many frogs depend upon temporary wetlands. Frogs must breed, the eggs must hatch and the tadpoles must grow and transform before the pond dries up. In drought years, many populations will not breed successfully. Although amphibians are adapted to occasional dry spells, populations can be eliminated if droughts occur more frequently.

WHAT WE KNOW SO FAR

In the 1980s, herpetologists (scientists who study amphibians and reptiles) noticed a disturbing trend: frog populations were declining around the world. In some instances, human developments had destroyed the amphibians' wetland habitat; in others, however, species were disappearing from remote wilderness areas.

Among the growing list of extinct species are three miniature frogs from Puerto Rico last seen in the 1970s, as many as seven species of amphibians from Australia, and the Golden Toad of Costa Rica. The toad was lost despite the fact that its habitat was protected in a large nature reserve.

No Canadian species has been declared extinct yet, but the Northern Cricket Frog, which lives in extreme southwestern Ontario, has not been seen in over a decade. Even more disturbing than the disappearance of this species—which is at the edge of its range in Canada—is the collapse of Northern Leopard Frog populations. Once one of the most common frogs in Western Canada, it vanished from much of its habitat in the late 1970s. Today, the Northern Leopard Frog is considered endangered in both British Columbia and Alberta.

CAUSE AND EFFECT

While scientists agree that amphibians are disappearing around the world, they don't have enough long-term data to discover the reasons for the decline. Given the global nature of the problem, it's likely that amphibians are being affected by a variety of factors—including ultraviolet radiation, global warming and chemical pollutants.

In Canada, habitat destruction and modification are likely the greatest threats to frogs. Over half of the wetlands in southern Canada have been drained, but the actual loss of breeding habitat may be even greater. Frogs often depend upon small ponds and temporary flooded meadows—the kind of sites that are filled in or drained without a second thought.

Just as important are the changes that have been made to the habitat between wetlands. Many frogs migrate every spring from a wintering site to their breeding pond. If a road gets built between the two areas, an entire population can be wiped out attempting to cross it.

FrogWatch

DATA FORM

Date: _____ **Time**: _____ a.m./p.m.

LOCATION: It is important that the coordinators receive an accurate description of your Frogwatch observation locations, as the distribution of many species—particularly their northern limits—is poorly known. You can look up your latitude and longitude coordinates at your local library from hardcopy maps or by using the following website:

www.frogwatch.ca

LEGAL LAND DESCRIPTION: Section, Township, Lot, Concession, etc.

_____

_____

LATITUDE: ____ ° ____ ′ ____ ″ N **LONGITUDE:** ____ ° ____ ′ ____ ″ W

Habitat Type: (Please provide detailed description)

_____

_____

_____

Species	Abundance Code	Species	Abundance Code
e.g. Wood Frog	2		

Abundance Code:

0. No frogs or toads seen or heard
1. Frog(s) or toad(s) seen but not heard
2. Individuals can be counted, calls not overlapping
3. Some individuals can be counted, other calls overlapping
4. Full chorus, calls continuous and overlapping, individuals not distinguishable

MAILING ADDRESS

Name: _____

Street: _____ **Apt. No.:** _____

City/Town: _____ **Province/Territory:** _____

Postal Code: _____ **Telephone:** _____ **Email:** _____

Age: (check one) ○ 5–10 ○ 11–15 ○ 16–20 ○ 21–30 ○ 31–55 ○ 56 or over

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WARNING! Avoid handling frogs. The chemicals found in insect repellants, hand lotions and perfumes are all toxic to amphibians. If you must pick one up, make sure your hands are clean and wet.

Another threat is the introduction of exotic species. Many lakes have been stocked for sport fishing, introducing hungry predators that feed on the amphibians already living there. Frogs also can face threats from their own kin. For example, in southern British Columbia, where the Bullfrog has been introduced, large adults will eat the juveniles of many other species of frogs.

Possibly even more threatening than the introduction of non-native species is the spread of foreign microorganisms. Scientists have recently discovered fungi that are responsible for mass die-offs of frogs in the rainforests of both Panama and Australia. The fungi, which were not native to these sites, became infectious parasites that ultimately killed their hosts.

Frog FAQs

WHAT ARE AMPHIBIANS?

Amphibians are vertebrates—species that have a bony internal skeleton and a well-developed brain. Other classes of vertebrates are fishes, reptiles, birds and mammals.

Biologists divide amphibians into three orders. Two of these, the frogs (including toads) and the salamanders, are found in Canada. The third group—the caecilians—are limbless amphibians found only in the tropics. There are over 4700 species of amphibians worldwide, including more than 4000 species of frogs, making this group more diverse than mammals.

Although amphibians have no unique structure (like the feathers of birds) which sets them apart from all other animals, there are a few characteristics which all amphibians share:

- They are ectotherms (i.e., cold-blooded). This means that amphibians do not have a constant body temperature like mammals. Instead, their internal temperature depends upon that of the surrounding environment;
- They have soft, generally moist skin without scales;
- Their eggs do not have shells and must be laid in water or a damp environment to keep from drying out;
- They go through a two-stage life cycle. When an amphibian hatches, it is in a gilled larval form. In frogs and toads, this larva is called a tadpole. After a few weeks or months, the larvae transform into the adult form; however, they may still take a few years to become mature.

WHY ARE FROGS IMPORTANT?

As amphibious creatures, frogs act as powerful "conveyor belts," moving nutrients from ponds and lakes onto the land. Although small and often unseen, frogs also are very numerous. A single frog can lay thousands of eggs; if they hatch, most will end up as critical prey for other species of birds, mammals and reptiles. In turn, frogs are major predators of invertebrates, including many insects considered pests by farmers and gardeners.

WHAT IS THE DIFFERENCE BETWEEN FROGS AND TOADS?

Toads are just one of the five families of frogs found in Canada. They have "warty" skin, large parotoid (poison) glands behind the eyes and no dorsolateral lines (ridges along either side of the back). There are two other common families, the true frogs and the treefrogs. True frogs generally have dorsolateral lines and, in Canada at least, all belong to the genus *Rana*. Treefrogs are small and tend to have special toepads for climbing.

The other two families of Canadian frogs are the tailed frogs and the spadefoots. There is just one species of tailed frog in all of North America, and in Canada it is found only in British Columbia. Spadefoots look similar to toads, but they have eyes with vertical pupils, lack the poison glands of toads, and have a wedge-shaped "spade" on the heels of their hind feet for burrowing into the ground.

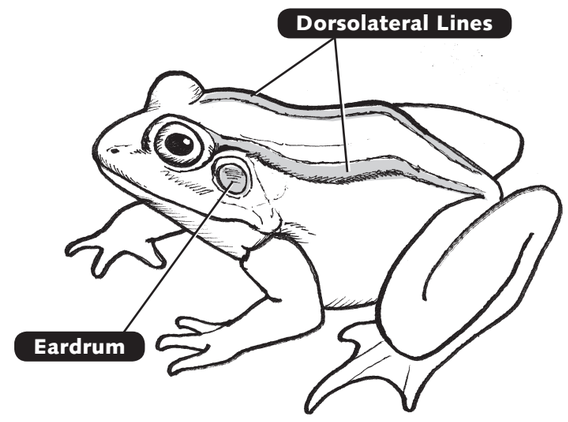
HOW TO MONITOR FROGS

Spring is the best season to monitor frogs. That's when they make their way to their breeding ponds and the males begin calling. Because there are relatively few species in any given area and most species have a distinct call, frogs are very easy to survey at this time of the year.

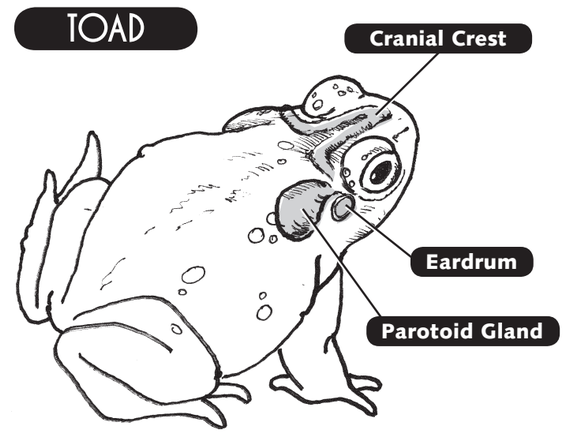
While provincial and territorial monitoring programs have varying reporting requirements, all are interested in the same basic information. What frogs are calling at a particular site? When are they calling? Under what conditions are they calling? And, perhaps most important of all, are they still calling there next year? It is only through long-term monitoring that we can hope to understand which species are declining.

In general, Frogwatch participants should be prepared to listen at a pond (possibly at your cottage, or even in your back yard) on a number of evenings over the calling season. This is because not all species call at the same time. Some frogs begin their chorus before all the ice has melted, while others wait until late spring or even early summer to begin calling. Many prairie frogs, like the spadefoots, call only for brief periods after heavy rains.

FROG



TOAD



GET INVOLVED

The Canadian Frogwatch program is a joint venture between Environment Canada, Nature Canada, and representatives from each province and territory. The information you collect should be submitted directly to your provincial Frogwatch coordinator (see addresses below).

The Internet provides an important advantage to monitoring programs. By visiting the National Frogwatch website, you will be guided to the provincial amphibian monitoring program of your choice. There you will find specific details about getting involved and can listen to the calls of all the frog species in your region. You can also test yourself to see how well you have mastered the calls. Many programs allow you to enter the data you collect through the Internet as well. This cuts down on costs and the use of paper.

For more information on Frogwatch or additional copies of the Frogwatch poster and survey form, contact:

Nature Canada
75 Albert Street, Suite 300
Ottawa ON K1P 5E7

Tel.: 1-800-267-4088 or 613-562-3447
Fax: 613-562-3371
Email: **info@naturecanada.ca**
Website: **www.naturecanada.ca**

To enter your survey data electronically or to learn more about the regional FrogWatch programs, visit **www.frogwatch.ca**.

REGIONAL CONTACT FOR THE FROGWATCH PROGRAM