

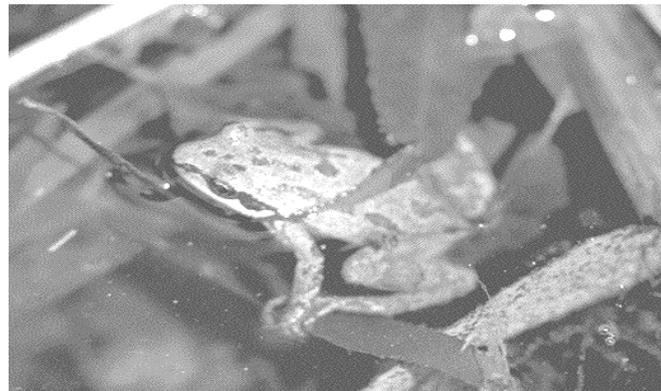
Amphibian Voice

Vol. 11 No. 1

Winter 2001

Special Report

Have you Heard this frog?



Striped Chorus frog
(*Pseudacris triseriata*)

There are two subspecies of Striped chorus frogs in Ontario: the Midland Chorus frog (*Pseudacris triseriata triseriata*) & the Boreal Chorus frog (*Pseudacris triseriata maculata*). The main difference between the two subspecies is their distribution in Ontario. Boreal Chorus frogs are found north and west of Lake Superior to the Manitoba border, and Midland Chorus frogs are found in Central and Southern Ontario. The calls of the Midland and the Boreal Chorus frog are almost identical.

Striped Chorus frogs are small frogs, about 2 - 3 centimetres in length. Midland Chorus frogs have light brown body with three, sometimes broken, dark brown stripes down the back. A brown stripe also runs along each side of the body from nostril to stomach, while a white stripe is visible along the upper lip. Boreal Chorus frogs are similar in appearance, but are predominantly green or brownish green in colour. Both subspecies have toe disks, but they are much reduced in size.

The call of the Midland and Boreal Chorus frog sounds like someone running their finger over the teeth of a plastic comb!

Amphibian researcher, Fred Schueler of the Eastern Ontario Biodiversity Museum in Kemptville, Ontario, has observed apparent declines in eastern Ontario's Striped Chorus frog populations. Fred's surveys also seem to demonstrate that chorus frog populations have been declining in the St. Lawrence and Ottawa Valleys since the 1950's. It is also suggested that chorus frogs are less common in south-central Ontario as well. Many observers around the Great Lakes feel that chorus frog choruses are more widely scattered than they were in the past. Reports of declines in Ontario are not surprising, as the Striped Chorus frog was designated as a species of special concern in Quebec this year!

The Adopt-A-Pond Wetland Conservation programme is dedicated to conserving amphibians and their wetland habitats in Ontario. Through our amphibian monitoring programme, **Frogwatch-Ontario**, you can help researchers by collecting observations on Striped Chorus frog populations in Ontario!

This spring, help the Striped Chorus frog by listening for its "ticktickticktick"-ing call in Ontario's wetlands. Visit the Frogwatch-Ontario website through the link at www.torontozoo.com/adoptapond or directly at www.cciw.ca/frogwatching, find out how to register yourself as a Frogwatch observer and hear the call of this delightful frog! Also visit <http://home.iSTAR.ca/~bckcdb/pseud.htm> for more information.

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It's a Frog's Life!

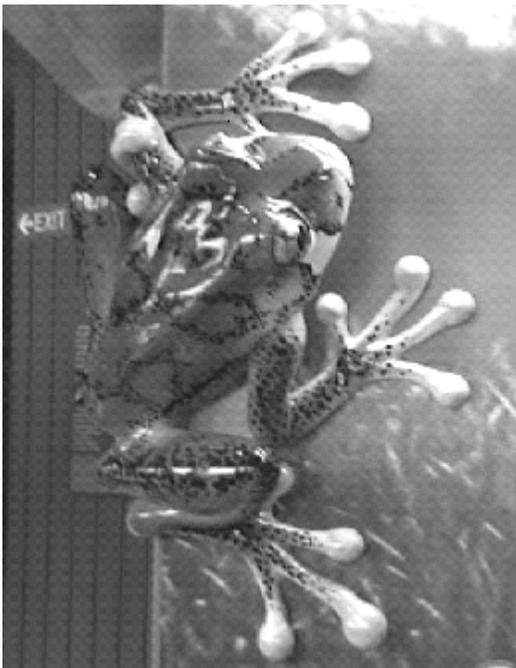
Introducing... Adopt-A-Pond's "It's a Frog's Life" Interactive Wetland Exhibit at the Toronto Zoo.



OPENING DAY!

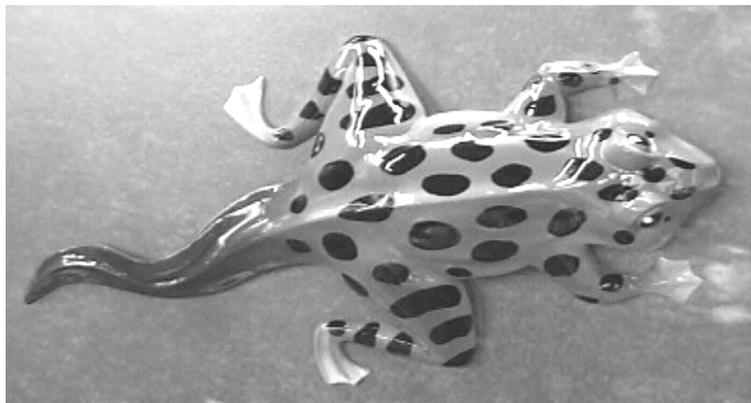
Adopt-A-Pond's "**It's a Frog's Life**" Interactive Wetlands Teaching Exhibit at the Toronto Zoo.

The Interactive Wetlands Teaching Exhibit in the Americas Pavilion at the Toronto Zoo offers exciting educational experiences for more than 1.2 million annual Zoo visitors. The Teaching Exhibit is designed for people of all ages and provides the opportunity learn about wetlands and amphibians while having fun identifying frog calls or spinning the "Survival Wheel" to learn how difficult it is for frogs to survive to adulthood. Complete with a larger-than life-size frog models and a spongy floor to simulate the ground in a swamp, the Interactive Exhibit allows visitors to immerse themselves in a wetland environment while learning how they can help amphibians in their own backyards. An "It's a Frog's Life" resource kit will be developed for educators visiting the Zoo and for those participating in the Adopt-A-Pond programme.



Left: A juvenile gray treefrog demonstrates its climbing abilities...

Below: Learn about the life cycle of frogs and toads using interactive models!



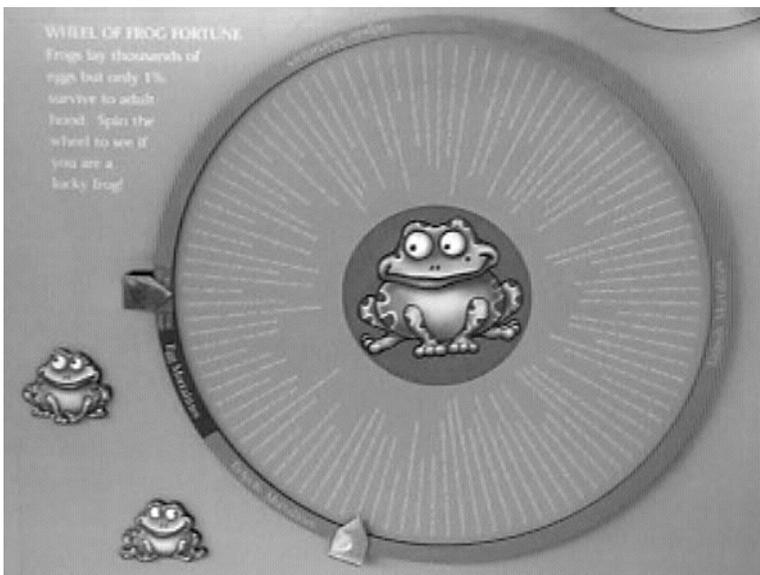
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Made Possible by Generous Donations from:

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Right: Visitors to the “It’s a Frog’s Life” Exhibit learning to identify frogs and toads by their advertisement calls.



Left: Amphibians face many challenges to survival throughout their life cycle. In fact, only 1% of frog eggs survive to become adult frogs! Test your luck! Come out and spin the “Amphibian Survival Wheel” to see if you are a lucky frog.

Spring Toad Festival 2000

By: Diana Teal

From April 29th to May 7th 2000, the Toronto Zoo's Adopt-A-Pond Wetland Conservation Programme and our Volunteer Guides hosted our first annual "Spring Toad Festival". Generously funded by Ontario 2000 and the City of Toronto's Millennium Fund, the Spring Toad Festival was a joyous celebration of spring ... and our pal, the American Toad.



*Over 800 frog and toad lovers visited Adopt-A-Pond's **Spring Toad Festival** at the Toronto Zoo's wetland habitat exhibit. All were greeted by a full, trilling chorus of male American toads in search of a mate!*

Festival-goers were able to witness the wonderful courtship rituals of American toads, see long strings of toad eggs and observe toads in their natural habitat. Toads were the main attraction, but certainly weren't the only wetland critter to see ... or hear!

Green frogs and leopard frogs also joined in the celebration, barking and chuckling from the edges of the wetland. Dragonflies whirred about in the air, while red-winged blackbirds squaked from their cattail perches.

Watch for more info on the 2001 Spring Toad Festival!

**A special “Hip Hop Horray!” to
Dave Selwyn, Toronto Zoo
Volunteer Guide and most
dedicated Toad Tracker!**

*Visitors were able to meet the Toronto Zoo’s “Toad Tracker”, track two American toads in the wetlands and learn about amphibian monitoring using radio telemetry techniques. Festival-goers also learned how **they** could monitor frogs in local wetlands through the Frogwatch-Ontario amphibian monitoring programme. Visit our website at www.torontozoo.com/adoptapond for more information on Frogwatch-Ontario.*

Frogwatch-Ontario “Observer Kits”, including a laminated Amphibian Identifier and Amphibians of Ontario poster, were provided to all festival participants.

“Grandpa”

One of our very special toads. Equipped with a radio transmitter, Grandpa’s movements were tracked from the Toronto Zoo’s wetland habitat exhibit to the Barbary Ape exhibit – about 100 metres away. At first, Grandpa seemed content to spend his days buried just under the loose soil in a shady shrub bed outside of the Ape exhibit. Then, Grandpa decided to join the Barbary Apes, hiding out in the exhibit’s grassy areas and rock walls.

Toronto Zoo’s Veterinarian, Dr. Graham Crawshaw, attaching a radio transmitter to Grandpa, the American toad. The radio transmitter allowed the Toronto Zoo’s “Toad Tracker” to follow Grandpa using a radio receiver. By discovering Grandpa’s movement patterns and favorite hiding spots, the Toad Tracker can better understand what types of habitat we need to conserve in order to help the American toad survive in our cities and towns. Similar studies are underway at the Toledo and Philadelphia Zoos.

Frog of the Month: Wood Frog

By: Joelle Vandermeer

If you are ever in search of wood frogs, you'll be sure to find them north...way north!

The wood frog is the only amphibian in North America that can be found as far north as the Arctic Circle! It is amazing to think that an amphibian, which normally relies on outside temperature to keep them warm, is actually living and surviving in area **ABOVE** the Arctic Circle!



The incredible Wood frog (Rana sylvatica)

Wood frogs are small frogs, about 3.5 cm in length. They are typically brown or tan in colour, but have been known to range from green to gray to rust. The Wood frog's most distinguishing feature is a black mask that extends from the tip of its nose, behind the eye to the shoulder. Many people say that it resembles a black Zorro mask!

Wood frogs can be found in abundance throughout most of Ontario. However, the number of wood frogs existing in urbanized areas of the province has decreased in recent years. This is mainly due to habitat destruction, such as woodlot thinning, the filling of ponds and wetlands, and the lowering of the water table.

As their name suggests, these tiny creatures are typically found in woodlands. Where they breed in ponds, forage for the summer and hibernate over the winter.

For wood frogs, hibernating is a completely different process than finding a cozy warm den to "sleep" in for the winter. As temperatures begin to drop, Wood frogs search for a place to hibernate – but not in a den or a hole in the ground! Instead, Wood frogs choose to cozy up under leaf litter, rotting logs, other debris on the forest floor or in crevices around tree roots!

In order to survive the harsh winter months, wood frogs have the amazing ability to **FREEZE** for 2 – 3 months during the winter! As much as

65% of the water in their body gradually turns to ice! Amazingly enough, their breathing, heartbeat and other body mechanisms progressively slow and eventually come to a complete halt. At this time, the "frog-sicle's" body temperature ranges between -1 and -6 degrees Celsius!

Wood frogs have the ability to freeze because they have special proteins and sugars in their body that protects their cells by acting as "anti-freeze". These sugars and proteins prevent their cells from completely freezing which would make them perish from dehydration.



*Frozen Froggy: A hibernating Wood frog
Photo Credit: J.M. Storey*

Wood frogs emerge from hibernation before any other amphibian in North America; even before the ice has completely thawed off the ponds and lakes! As spring temperatures arrive, Wood frogs "melt" and their heartbeat and breathing resume! After "awakening", male wood frogs are the first to arrive at their temporary breeding ponds and will immediately start to call and compete with other males for breeding rights to female Wood frogs. Their call can be recognized as a duck-like quacking sound beginning in late March and early April.

Eggs are laid in deep water, in a globular mass attached to submerged vegetation. Females lay eggs in one area so that many of these masses are grouped together. The grouping of egg masses helps to protect them from ice that may form in the pond.

Eggs hatch within 1 – 2 weeks and tadpoles transform into juvenile frogs in about 60 days! This breeding cycle occurs quickly in Wood frogs, because they breed in vernal pools, woodland ponds that are filled with snow melt in the spring and are dry by early summer. This means that they must transform into adults before the pond dries out!

Hibernation Hideouts!

How do other animals adapt to the cold winter months?

American Toad

Ontario's most common amphibian burrows into loose soil, deep below the frost line, where it "sleeps" for the winter.

Goldenrod Gall Moth

This caterpillar nestles itself inside the stem of a goldenrod plant, where it avoids freezing in even extremely cold temperatures! Many birds excavate the gall to feed on the hibernating larvae.

Mourning Cloak

This beautiful butterfly hibernates as an adult under roof shingles or in cracks in tree bark!

Common Snapping Turtle

In the late fall, Snapping turtles bury themselves into the muddy bottom of ponds, rivers or streams for the winter. Based on radio telemetry studies, Toronto Zoo researchers have found that some snapping turtles leave their watery summer home and travel over land to groundwater-fed swamps, marshes and springs to hibernate! Not all snappers are totally dormant during hibernation – they are often seen crawling underneath the ice in the middle of winter!



Snapping Turtle, Rouge Valley Park, Ontario.

Gray treefrog

This is another frog that has the ability to tolerate ice their body ... and they actually turn **BLUE!** Gray treefrogs hibernate in woodlands under the leaf litter.

Garter Snake

In October, Garter snakes enter into hibernation. They may hibernate singly or in large numbers in groundhog holes, rock crevices, under logs and rotting wood, in mud banks, wells, and house foundations.

The Call of the Chorus Frog

By: Fred Schueler, Eastern Ontario Biodiversity Museum

Everyone hears little "peeper" frogs announcing the onset of spring, but many people don't realize that there are two species of frogs in some of these choruses. The call of the Spring Peeper, the only small treefrog in most of Ontario's wetlands and ponds, is a single short whistled note. In some temporary pasture ponds, roadside ditches, gravel pits, flooded fields, and shrubby wetlands, "peepers" are joined by "creakers".

The "creakers" are Chorus frogs, whose trilled calls sound like a thumb running over a plastic comb, starting at the large-toothed end and running up to the small-toothed end. Chorus frogs call during the day as well as at night. When Spring Peepers call during the day, in the cold, or in a territorial dispute, they also trill, but with a more whistled, less comb-like, call than that of the Chorus frog. It takes practice, but when you are familiar with the calls of both species, you will be able to distinguish which species of frog is uttering the trilled call.

Both Chorus frogs and Spring Peepers are small brownish frogs with slightly enlarged toepads. They can be distinguished by the pattern on their back. The Spring Peeper has a cross-shaped mark on its back while the Chorus frog has three lines, or lines of spots, on its back. Both begin to call at the end of March (plus-or-minus a couple of weeks) and continue through April and May.

Celebrate the arrival of spring and help researchers determine if Chorus frogs are declining in Ontario by listening for the distinctive creaking calls wherever you go in the spring, writing down the location, habitat, time, temperature, and other species heard calling from the site. Once you've heard frogs or toads calling at a site, continue to listen there so that your records document loss and recolonization as well as occurrence.

Please be sure to make your observations part of the public record by sending the records to **Frogwatch-Ontario** at www.torontozoo.com/adoptapond and to the **Eastern Ontario Biodiversity Museum** at bckcdb@istar.ca, and we'll forward them to the Natural Heritage Information Centre for the Ontario Herpetofaunal Summary, the New York Herpetological Atlas and State Museum, or the Quebec Herpetological Atlas to help update Chorus frog distribution maps.

Adopt-A-Pond's Wetland Curriculum Resource for Educators

Adopt-A-Pond's Wetland Curriculum Resource: A Toadally Awesome Wetland Guide for Educators is a comprehensive guide for students in kindergarten through grade 12. The purpose of this guide is to assist educators in the integration of wetland materials into their lesson plans.

**Four basic modules include: "Water", "Wetland Ecology",
"Amphibians", and "Environmental Issues".**

Links to Ontario's current common curriculum in subjects such as biology, chemistry, art, drama, geography and mathematics are also provided...

Plus:

- Full lesson plans
- Question & answer sheets
- Games & project ideas
- Valuable preparatory information

All in an easy-to-use format!!!

This resource is designed to make wetland lessons a joy to prepare and present both in and out of the classroom.

TAKE THE PLUNGE! EXPLORE THE WONDERS OF WETLANDS WITH YOUR STUDENTS!

The Wetland Curriculum Resource is now available to all Ontario educators at no charge! To receive a copy, please fill out the order form below and return it to Adopt-A-Pond via mail, fax or email (see contact information in adjacent column).

Also available!

The Urban Outback ~ Wetlands for Wildlife: A Guide to Wetland Restoration and Frog-friendly Backyards.

A comprehensive guide to community-based wetland protection, restoration and pond creation for schools, homeowners, businesses and community groups. Also available on-line at www.torontozoo.com/adoptapond.

Order Form

- Please send me a copy of the Wetland Curriculum Resource!
- Please send me a copy of the Urban Outback!

Name: _____

School Name: _____

Mailing Address: _____

Volume 11, No. 1

Amphibian Voice is a student/teacher and community newsletter, distributed to schools and communities participating in the Adopt-A-Pond programme, to assist with their efforts to conserve amphibians and wetland habitats.

Send in your stories, drawings and photographs to the address below and we will "hoppily" include them in future issues.

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We welcome support of our programme! Please make cheques out to "Toronto Zoo" and send to the following address. Thank you!

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