



Amphibian Voice

Vol.14 No.4 ISSN 1705-8228 Winter 2004

FROGWATCH-ONTARIO Frogwatch-Canada:

By: Elizabeth Kilvert, Volunteer Coordinator, Ecological Monitoring and Assessment Network (EMAN) Coordinating Office

Ontario has more amphibian species than any other province or territory. This is likely as a result of the prevalence and diverse types of habitats containing wetlands for at least part of the year.

Canada is home to 45 species of amphibians - 24 frogs and toads and 21 salamanders

Scientists generally view amphibians as environmental indicator species – giving insight into the health of an ecosystem.



information across Canada. This information can be used a long with research data to produce findings and present a clearer picture of what is happening to frog and toad populations across Canada.

This partnership is effective in gaining a greater geographical range of data for Environment Canada and for communities to understand ecosystem response to stresses such as pollutants and climate change.

In this Issue	
Frogwatch-Canada...	1-2
Amphibian Declines.....	3
Fab Frogwatchers.....	4-5
Mom of 10,000?	5
Lily Pads & Cattails.....	6-7
Ribbet's Review	8

There is still much to be learned about the populations of anurans, such as species abundance and distribution. FrogWatch is a "citizen science" monitoring program that solicits volunteers to collect information to help provide more

FrogWatch was the first NatureWatch program launched to the Canadian Public in the spring of 2000. Observers report the first calls and choruses of frogs and toads. This is also called phenology – the study of seasonal events and their timings.

Participants record and report the presence or absence of amphibians using a web based system. This system provides interactive GIS

mapping, where individuals can see their results and the observations of others reported in real time.

The data inventory being built and maintained by this program will help to identify crucial wetlands, habitat fragmentation, buffer areas and information on biodiversity. The atlas information will help Environment Canada to identify, measure and assess the rate of amphibian decline across Canada.

This program also provides an activity for families, Guides, Scouts and teachers. Please get in touch to receive support materials including posters, CD ROM's and classroom activity guides.

We would like to take this time to thank all of our volunteer observers and the Toronto Zoo for your time and effort in making this program a success. The EMAN Coordinating Office looks forward to looking at the observations that have been provided to us and bringing information on our findings back to you!

Dramatic Amphibian Declines

Reprinted from a news release by the Center for North American Herpetology - Lawrence, Kansas

The world's amphibian species are under unprecedented assault and are experiencing tens of thousands of year's worth of extinctions in just a century, according to the most comprehensive study ever conducted. More than 500 scientists from over 60 nations contributed to the Global Amphibian Assessment, the key findings were published on-line by Science Express and will appear in the journal Science.

Over the past three years, scientists analyzed the distribution and conservation status of all 5,743 known amphibian species, which include frogs, toads, salamanders and caecilians. Of these, 1,856 (32 percent) are now considered threatened with extinction. In addition, sufficient data are lacking to accurately assess the status of nearly 1,300 other species, most of which scientists

believe are also threatened. Amphibians are widely regarded as canaries in the coal mine, since their highly permeable skin is more immediately sensitive to changes in the environment.

"Amphibians are one of nature's best indicators of overall environmental health," said Russell A. Mittermeier, president of Conservation International (CI). "Their catastrophic decline serves as a warning that we are in a period of significant environmental degradation."

Key findings of the study include:

- According to the IUCN Red List of Threatened Species, at least 1,856 amphibian species are threatened with extinction, representing 32 percent of all species. By comparison, only 12 percent of all bird species and 23 percent of all mammal species are threatened.
- At least nine species have gone extinct since 1980, when the most dramatic declines began. Another 113 species have not been reported from the wild in recent years and are considered to be possibly extinct.
- 43 percent of all species are in population decline; fewer than one percent are increasing. 27 percent are stable; the rest are unknown.
- 427 species are considered Critically Endangered (CR), 761 are Endangered (EN), and 668 are vulnerable (VU).
- Columbia has 208 threatened amphibian species - the most in the world - followed by Mexico with 191, Ecuador with 163, Brazil with 110, and China with 86. Haiti has the highest percentage of threatened amphibians, with 92 per cent of its species at risk of extinction.

"After birds and mammals, amphibians are the third group of species to be completely evaluated on a global scale. This study significantly expands our current knowledge and provides a baseline from which we can monitor our impact on the environment over time," said Achim Steiner, Director General of IUCN (the

World Conservation Union). "The fact that one third of amphibians are in a precipitous decline tells us that we are rapidly moving towards a potentially epidemic number of extinctions."

In the Americas, the Caribbean, and Australia, a highly infectious disease called chytridiomycosis has hit amphibians especially hard. New research is showing that in some regions, outbreaks of the disease may be linked to drought years, which scientists are increasingly attributing to the effects of climate change.

In most parts of the world, including Europe, Asia and Africa, chytridiomycosis is currently less of a problem. Other threats, such as habitat destruction, air and water pollution and consumer demand are leading causes of amphibian decline.

Still, scientists are confident that an immediate commitment of resources and effort could reverse many of the present negative trends. Creating new protected areas, captive-breeding programs, better community engagement and protection of freshwater systems would enhance amphibians' chances of survival.

"Since most amphibians depend on freshwater and feel the effects of pollution before many other

forms of life, including humans, their rapid decline tells us that one of the Earth's most critical life support systems is breaking down," said Simon Stuart, Senior Director of the IUCN/CI Biodiversity Assessment Unit, and leader of this research.



The Blanchard's Cricket Frog, a small, nonclimbing treefrog whose only Canadian habitat was in Point Pelee Island and Point Pelee. This species is considered extirpated at Point Pelee since the last recorded sighting was in 1920.



In Ontario, the Fowler's toad is only found on the northern shores of Lake Erie. They have suffered decline and no longer occur at any localities in western Lake Erie, where they are considered extirpated.

"We already knew amphibians were in trouble, but this assessment removes any doubt about the scale of the problem," said Bruce Young, a zoologist with the conservation group NatureServe. "Now we need greater protection of natural areas and accelerated research on amphibian diseases to stem the extinction tide."

Scientists from CI, IUCN, and NatureServe collaborated on the Global Amphibian Assessment. They analyzed data contributed by more than 500 of the world's leading amphibian specialists, and assessed each species for its level of threat, determined the distribution of each species and gathered other essential information.

Complete data about each species, as well as country and region breakdowns, is available in a searchable database

at www.globalamphibians.org

FABULOUS FROGWATCHERS

Editor's Note: Over the course of the year, we receive submissions from FABULOUS FROGWATCHERS who have taken the time to share their stories and poems. Thank you to each of our FABULOUS FROGWATCHERS and to everyone who participates in Frogwatch-Ontario!

Something in Common with Frogs

By: Lucy Brennan, Whitby

I have fallen in love
with the frog in my pond.
I look for him everyday
but he withholds himself from my eyes.

On a day when the sun shone brilliantly
on a lily pad,
I caught him
sunning himself. He never

Noticed me. I stood awhile
And drank my fill
Of his still form. Only
His throat quivered,
Palpitating.

I moved away
and left him there pulsing,
taking no account
of humans,
which was not a good idea:
instead of a lover
I might have been
the cat, Cleo, who has been
sunning herself lately
in front of the pond,
her eyes fixed and glassy with concentration.

The water today looks stagnant.
no one
has been swimming in it!

He could be hibernating early?
Or, maybe something told him
about ultra violet and other harmful rays
and he no longer knows who's friend or enemy.

Like me,
he's an endangered species.

Greetings from Trenton

By: Barbara Pratt, Trenton

This will be my final report of the year. All things considered, it has been a disappointing season. There were noticeably less toads and frogs either seen or heard. The early part of the season was cold and wet and could well have influenced the outcome.

The toads were calling, but more distant from my immediate vicinity. Additionally, their calling seemed shorter. I only saw a few half-grown ones in the early part of the season, but I saw no babies or fully-grown ones later (except at my sister's in August).

The green frogs, as well as seeming to be fewer, did not seem to call as frequently or for as long a period of time.

The only leopard frog around seems to be the one half-grown baby from last season. He/she has obviously fared well on the insects/worms in my garden, as it has become quite a size. But it appears to be the only one.

The carp did not even make their sorties up the creek to ravage any spawn that might be there, which is surely an indication that the pickings were very slim.

My sister, Elizabeth Terry, has noted the same dearth of amphibians. Even her husband has not seen the frogs like he did last year on the land he rents for pasturage a couple of miles away.

The Joys of Frogwatching

By: Christine Baptista, Lakehead University

During the winter months I sometimes sit by my window and look out at the white landscape. I often think to myself 'if this were spring or summer, I would be out listening for frogs and toads.' I think about my little amphibian friends and hope they are safe in their seasonal slumber as Old Man Winter does his duty. I eagerly anticipate the returning spring and that very first call I hear - the

Wood Frog. Many people are reminded of spring by the return of the red-breasted robin, but I know the spring is near when the wood frogs begin to mate on my backyard pond. Even before all the ice has melted, the males are calling in hopes of attaining a female's response. And once the wood frog has ceased calling, the rest of the frogs emerge from hibernation and species by species can be heard long throughout the summer on damp days and warm nights.

For me, Frogwatching is extremely therapeutic. I can sit in my backyard in the evening and hear the magnificent choruses of many species of frogs and toads calling out to each other and singing the most beautiful songs. On really warm nights in the summer, I keep my window open slightly and listen to nature's lullabies being sung to me from outside. It makes me forget about the hustle and bustle of the modern day world and reconnect with the beautiful planet that we share with countless organisms.

I also enjoy Frogwatching for the good that it does in the scientific community. By simply listening to frogs and toads and submitting my findings, I am helping scientists and climatologists track patterns in climate change and global warming. I am also aiding in the tracking and location of species populations and habitat destruction.

I love listening to frogs and toads in nature. Knowing that these were the first creatures on this planet to evolve vocally is phenomenal. I love the time that I spend Frogwatching, and I can't wait until the spring returns and I can start a new season.

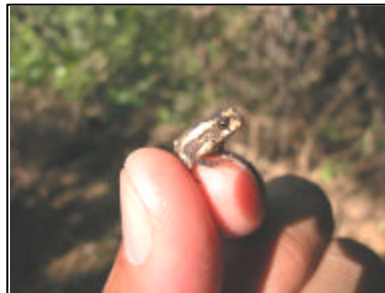
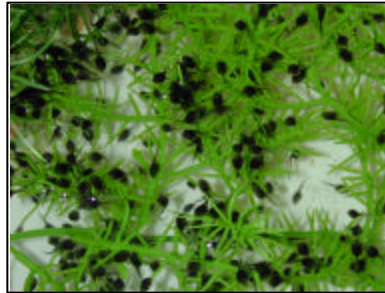
The Proud Mom of 10,000?!

By: Lisa Sealock

I always knew I wanted to be a mom someday – but **this** year and to roughly **10,000** babies? Talk about jumping in with both feet!

Sometime during the wee hours of November 6th, lots of tiny little Puerto Rican Crested Toad eggs were laid, and I found myself staring into two tanks of roughly 10,000 little black tadpoles on the

following Tuesday morning. Three times a day I would prepare a special diet for my hungry little tadpoles – a nice fish flake paste for breakfast, fish pellets for lunch and lettuce or spinach leaves for dinner. Variety is the spice of life you know!



Photos from the top: tadpoles, a toadlet and a fully-grown Puerto Rican crested toad.

I would clean the tanks twice daily and I'm sure my giggles echoed the halls as I had hundreds of tadpoles nibbling on my hands to see if I was perhaps a new component of their diet.

So why was I raising all these tadpoles? The Puerto Rican Crested toad is a threatened species found in Southern Puerto Rico. In collaboration with the US Fish and Wildlife Service and the AZA SSP, tadpoles hatched at the Toronto Zoo are released in Puerto Rico each year for the purpose of sustaining and rebuilding the wild population. Two large release ponds

have been constructed to receive the captive-bred tadpoles, and the Zoo is constructing additional release ponds within the toad's historic range.

The Puerto Rican crested toad was believed to be extinct until 1967. Today in the wild, there are thought to be only a few hundred remaining. The decreasing population is due to human population growth, and the introduction of the giant marine toad that competes for food, niche, and breeding sites. So while I was very sad to see all my little babies go, it makes me happy to know that they are returning home to help rebuild a fragile population.

Lily Pads & Cattails

2004 Frogwatch-Ontario Updates

By: Lisa Sealock

What a great year for Frogwatch-Ontario! A New Year brought many new Frogwatchers and observation stations. In fact, 2004 saw over 700 observations contributed to the monitoring database! These observations enable scientists to learn more about the provincial distribution of frogs and toads, the call dates of these species, and over time monitor climate change.

That's right, I said climate change! As climates warm, as a result of global warming, frogs and toads will call earlier and earlier in the year, and remain active for longer periods of time. What impact will this have on amphibian populations? Only time and your observations will help scientists tell.

So how are Ontario's frogs and toad faring so far? Interested in the who's who of the amphibian world? Wondering what species are spotted or heard most often? Well here are the number of observations for each species so far.....

▪ Spring Peeper	1295
▪ American Toad	1000
▪ Green Frog	973
▪ Leopard Frog	748
▪ Gray Treefrog	531
▪ Bullfrog	301
▪ Wood Frog	261
▪ Boreal/Western Chorus Frog	245
▪ Striped Chorus Frog)	152
▪ Pickerel Frog	95
▪ Mink Frog	40
▪ Fowler's Toad	3

As you can see, there have been many observations submitted to date, but these data submissions must continue from year to year for scientists to be able to track and monitor long-term population changes. Yearly variations can help us understand the changes occurring in the environment.

Success of the Frogwatch-Ontario programme depends on the dedication of volunteer frogwatchers. Becoming a Frogwatcher is a great way to enjoy and appreciate nature while taking an active role in conservation. Thank you to all of our enthusiastic Frogwatchers who I'm sure can't wait for the sounds of spring!

How to Become a Frogwatcher

By: Lisa Sealock

The issue of declining amphibian populations was first recognized in the late 1980's and the trend has continued all over the world. The loss of amphibians from pristine habitats indicates that there may be "hidden" factors affecting populations.

Water is vital in the life cycle of an amphibian. Amphibians have extremely sensitive skin, through which toxins can easily pass. Any contaminant that changes the air, water, or food supply has a direct effect on amphibians. Because amphibians are so sensitive to these changes, their disappearance may be a warning to us!

Frogwatch-Ontario encourages community members of all ages to take an interest in their local environment, while promoting the importance of wetlands and amphibians. By simply listening for the amorous calls of frogs and toads in the location of your choice, you can help us collect valuable information on the status and distribution of amphibians and their Ontario habitats. The presence of calling amphibians indicates a healthy habitat. Your observations help us to determine the quality of your selected ecosystem.



Follow these six easy steps to become an expert Frogwatcher:

Step 1: Register as a Frogwatch-Ontario observer.

Visit the Frogwatch-Ontario website at www.naturewatch.ca to fill out an on-line registration form. Don't have access to the Internet? No problem, you can receive a registration form by mail by contacting Adopt-A-Pond at: 361A Old Finch Ave., Scarborough, ON M1B 5K7 or by fax at: 416-392-4979.

Step 2: Register your location(s) as a Frogwatch-Ontario observation station.

Your observation station can be a local wetland, pond, stream, or even your own backyard. To register a location on-line or by contacting Adopt-A-Pond, you require the following information:

- Latitude and longitude of your station (available on Frogwatch website, your local library, or by contacting Adopt-A-Pond)
- Name of the nearest named city or town
- Distance from the nearest named city or town
- Direction (north, south, etc.) from nearest named place
- Habitat type (e.g. pond, swamp, urban area)

Step 3: Learn the calls of Ontario's 13 frog and toad species.

This step is much easier than you might think! Each species has a unique call that distinguishes it from other species. With a little practice, you will recognize them in no time. You can listen to all 13 frog and toad calls on the Adopt-A-Pond website, while viewing species photos or contact Adopt-A-Pond to receive an Ontario Frog and Toad Call cassette tape. Frogwatchers may also request and Amphibian of Ontario identifier guide or poster to help you learn to visually identify frogs and toads.

Step 4: Begin listening for frog and toad calls at your observation station.

Frogs and toads begin calling in early spring and continue for most of the summer. Listen for 3 minutes each time you monitor. Ideally, we would like Frogwatchers to monitor their stations once or

twice a week, but even a single report is valuable! Although dusk is the best time to monitor, some species do call during the day, so you may prefer to monitor then.

Step 5: Record your data.

While at your observation station, please record the following:

- Date and time of observation
- The species heard
- The abundance code, as follows:

0 – no frogs or toads seen or heard
1 – Frog or toad 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.

- Air and water temperature, if possible
- Any additional information (e.g. presence of eggs, tadpoles or other animals)

Data collection forms can be printed from the Frogwatch web site or are available by contacting Adopt-A-Pond.

Step 6: Submit your data.

Data can be submitted via mail or fax to Adopt-A-Pond, or online at the Frogwatch web site (www.naturewatch.ca). In order to submit your data, you will need your Frogwatch observer number and Observation Location identification number (both available at the time of registration). All data is sent directly to the Natural Heritage and Information Centre in Peterborough, Ontario. Your data is contributing to the long-term collection of amphibian population data across the province and will be used to update frog and toad distribution maps for Ontario.

Congratulations! You are now an official Frogwatcher! Thank you for joining hundreds of others who share your concern for amphibian declines and the state of our fragile ecosystems. Your actions are making a difference!

Ribbet's Review

Winter 2004

By: Brianna Burley, Wetland Biodiversity and Conservation
Coordinator (YCW Graduate Intern Program)

Ecological Monitoring and Assessment Network

<http://www.eman-rese.ca/eman>

Has monitoring frogs stirred an interest in the environment and you want to learn more about other ways to monitor our ever-changing world? Well, here is a web site for you. EMAN, which stands for Ecological Monitoring and Assessment Network, is a network of individuals, groups and organizations that work together to monitor various environmental factors to help us detect trends, patterns and anomalies in our environment.



EMAN was created to help gather, summarize and create collection guidelines so that all monitoring information was sent to the same place and collected in the same way. This allows for more comprehensive data collection and analysis, and allows us to detect trends on a much larger scale.

Many of you may already be involved with FrogWatch, which is an EMAN protocol. FrogWatch encourages people from across Canada to monitor local frogs and toads so their distribution and abundance can be better understood. Frogs and toads are great indicators of ecosystem health, but there are many other EMAN protocols that also help to monitor the health of the natural environment. Some of these other EMAN protocols include:

- Ice Watch
- Plant Watch
- Worm Watch

This web site will tell you how to get involved, why you should get involved and what you need to do to become an ecological monitor. So log on and get involved.....help more than just frogs and toads by helping detect climate change patterns and other environmental trends.

Volume 14, No.4

Amphibian Voice is distributed to schools and communities participating in the Adopt-A-Pond programme. The purpose of this newsletter is to provide information on amphibian, turtle and wetland conservation issues and efforts in Ontario.

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

Editors:

Lisa Sealock
Adopt-A-Pond Coordinator

Bob Johnson
Curator of Reptiles & Amphibians

Contributors:

Elizabeth Kilvert
Lucy Brennan
Barbara Pratt
Christine Baptista
Brianna Burley

Support for the Adopt-A-Pond Programme:

Banrock Station Wetlands
Foundation Canada
Toronto Zoo Foundation
Young Canada Works
Canadian Museum Association

Adopt-A-Pond is a non-profit wetland education programme. Costs to produce this newsletter, and other resources, are funded by grants and private donations.

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

Adopt-A-Pond
Toronto Zoo
361A Old Finch Ave.
Scarborough, ON M1B 5K7

Fax: (416) 392-4979
aap@torontozoo.ca



Printed on recycled paper, using
vegetable based ink!