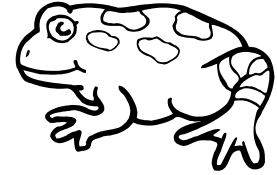




Michigan Department of Natural Resources  
Wildlife Division  
Natural Heritage Program



# Michigan Frog Survey Update

December 2004

## 2004 Data

With apologies for the delay this fall in distributing the 2004 survey results, here they are!

Monteverde Cloud Forest—as in more developed regions, suggesting that global threats like climate change might be playing a role as well. Whatever the culprits, scientists agree, the fate of amphibians does not bode well for other species dependent on Earth's air, land and water for survival—including human beings.

## One in Three Amphibian Species Nearing Extinction

October 25, 2004

by Roddy Scheer

(Reprinted from E Magazine.com)

A recent report summarizing the findings of 500 scientists from 60 countries confirms that the world's amphibian population is undergoing a die-off of unprecedented proportions, most likely as a result of a combination of human-caused environmental problems. According to researchers at the World Conservation Union, almost a third of the 5,743 known species of frogs, toads, newts and salamanders on Earth are facing extinction within the next few years.

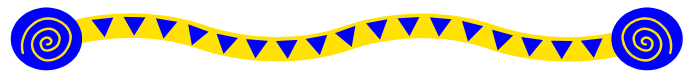
"This level of decline is ... extraordinary and serious because amphibians represent a very important part of the overall diversity of life. Since



most amphibians feel the effects of pollution before many other forms of life, their rapid decline tells us that one of Earth's most critical life support systems is breaking down," says Dr. Simon Stuart, who coordinated the study on behalf of the World Conservation Union.

Since amphibians have porous skin and require both clean land and water habitats, they are vulnerable to a wide range of pollutants and other environmental changes. While scientists cannot pinpoint one specific reason for the decline, they believe a combination of factors including pollution, human exploitation for food and medicine and habitat destruction are to blame.

But perhaps most surprising to biologists is that the decline is happening just as much in pristine protected areas—such as California's Yosemite National Park and Costa Rica's



### NEWS RELEASE

The Center for North American Herpetology

Lawrence, Kansas

<http://www.cnah.org>

24 November 2004

Amphibians in dramatic decline - Up to 122 extinct since 1980. Study finds nearly one-third of species threatened with extinction.

The world's amphibian species are under unprecedented assault and are experiencing tens of thousands of years' 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 of which 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 and toads, salamanders, and caecilians. Of these, 1,856 (or 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, including changes to fresh water and air quality.

"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. Twenty seven percent are stable, and the rest are unknown.

427 species are considered Critically Endangered (CR), 761 are Endangered (EN), and 668 are Vulnerable (VU).

Colombia 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 percent 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.

But 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

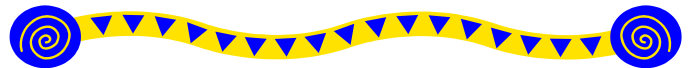
community engagement and protection of freshwater systems would enhance amphibians' chances of survival.

"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 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.

"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."

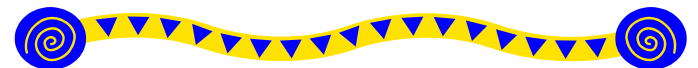
Scientists from CI, IUCN, and NatureServe collaborated on the Global Amphibian Assessment. They analyzed data contributed by more than 500 of the world's leading amphibian specialists, and assessed each species for its level of threat, determined the distribution of each species, and gathered other essential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

Complete data about each species, as well as country and regional breakdowns, is available in a searchable database at [www.globalamphibians.org](http://www.globalamphibians.org).



## Validation of Calls

Please remember to send in a recording or other type of validation of Cope's gray treefrogs and Blanchard's cricket frogs the first time you hear them. The Cope's gray treefrog's call is easy to misinterpret and the cricket frog is a species of special concern so we want to be sure you're hearing what you think you hear. Once you have confirmed a call, you do not have to confirm it if you hear the call again in subsequent years. If you consider yourself knowledgeable enough to identify these species without validation, please contact me and I'll make sure I have that on record.



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*2005 marks the 10<sup>th</sup> year of the Michigan Frog & Toad Survey!*

*Stay tuned for information on special events around the state.*

**Michigan Frog and Toad Survey Web Page:**

<http://www.michigan.gov/dnr/>. Click on “Wildlife and Habitat” then “Research Projects” then “Frog and Toad Survey”.

**NAAMP Web Page:**

<http://www.mp1-pwrc.usgs.gov/amphib/sitemap.html>

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