



# Amphibians

## Why Amphibians?

Amphibians are an ancient group of animals that occur widely through much of the world except the driest deserts, the oceans and Antarctica. Amphibians include frogs and toads, salamanders and newts, and the worm-like caecilians. There are over 7,000 known species, with the greatest abundance and diversity being in tropical rainforests. Most, though not all, of the species require water in which to breed, and have a larval stage known as a tadpole. There are some remarkably beautiful and colourful species, including poison frogs, treefrogs, harlequin toads, and fire salamanders.



Amphibians act as important cultural symbols. In Mexico the Aztecs believed the Axolotl to be the transfiguration of Xolotl, the god of the evening star. In Japan, frogs were traditionally viewed as symbols of good fortune endowed with magical powers. Amphibians are often used in education and teaching, and children in many parts of the world learn about frog spawn hatching into tadpoles, which then turn into miniature frogs – this is often one of the first encounters that young people have with the unexpected wonders of nature. In short, amphibians have long been valued by people in many cultures.

Frogs are an important food source, and this is especially important in poorer parts of Asia and in the Andes. Some amphibians are used as sources of medicines (both for Traditional Chinese Medicine, and chemicals extracted from amphibians are used western medicine). Their skin secretions may offer hope in the battle against antibiotic-resistant bacteria, AIDS, Alzheimer's disease, cancer, and numerous other diseases. Some amphibians are also popular as pets. They can be very abundant in certain ecosystems, and so they can play a critical role in consuming insects and other invertebrates, and the tadpoles are often major consumers of algae. Because of these important ecological roles, amphibians can be indicators of the health of ecosystems. Yet, despite their importance, amphibians are highly threatened.

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## Challenges

In 2004 the shocking results of IUCN's Global Amphibian Assessment were announced. Approximately one-third of the world's amphibian species were found to be at risk of extinction, with over 100 thought to be extinct already. Scientists now believe that over 40% of amphibian species are globally threatened. The percentages of threatened species were much higher than for either birds (12%) or mammals (25%). Amphibians are being driven to extinction by three major threats: habitat loss; harvesting for food and medicine; and a new fungal disease called chytridiomycosis.

There are three things that make amphibian conservation particularly challenging:

**1. Chytridiomycosis:** Since 1970, chytridiomycosis has led to sudden population collapse in hundreds

of species, some of which are probably extinct. Species have even disappeared from excellent, well-protected habitats, sometimes almost overnight. A new virulent form of the disease has emerged in the last few years that is especially lethal to salamanders. So far, there is no effective cure for chytridiomycosis in the wild.

**2. Small global range:** Most amphibians have very small global ranges, making them especially vulnerable to extinction through habitat loss. Some species are confined just to a few tens of square metres and can very easily be wiped out by careless human actions.

**3. Rapid discovery rate of new species:** New amphibian species are still being discovered at a very rapid rate – around 150 species per year. This means that species can be wiped out even before we know they exist.

## Solutions

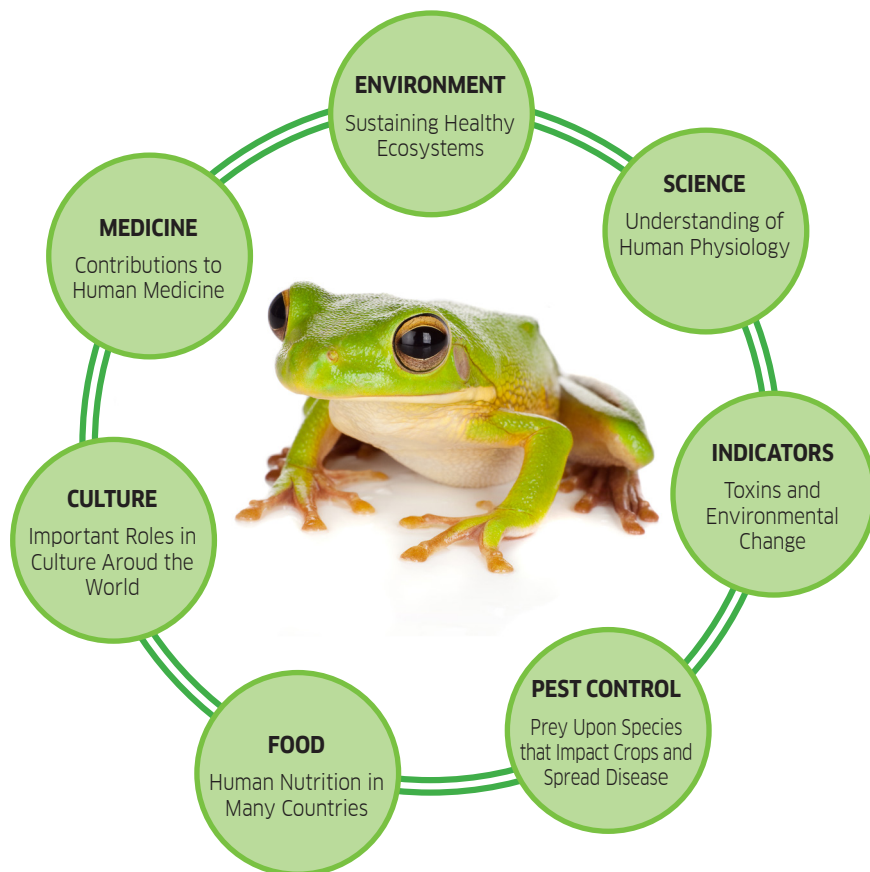
One of the largest problems in addressing the amphibian extinction crisis has been the lack of any organized global effort to conserve these fascinating species. To address this enormous gap, the Amphibian Survival Alliance (ASA) was launched in 2011, and has since built a global partnership, dedicated to developing a better world for amphibians through coordinated conservation action. Synchronicity Earth started to support the ASA from soon after its establishment because we consider it to be the most strategic way to combat amphibian extinctions. Synchronicity Earth's focus is very much on helping to build new conservation alliances to address gaps in the overall conservation effort, and the ASA is an excellent example of this strategy.

ASA is a global alliance that recruits, supports, and coordinates a network of organisations to implement conservation actions for amphibians, rather than implementing projects as an independent organisation. The ASA partner organizations, including Synchronicity Earth, envisage a future where amphibian conservation is prioritised and fully collaborative.

The ASA works in close partnership with the Amphibian Specialist Group (ASG) of the IUCN Species Survival Commission. The ASG is composed of the leading experts on amphibian conservation from around the world and acts as the scientific advisor to the ASA. Amphibian Ark (AArk) is another close advisor to the ASA, and leads on plans to establish and maintain captive rescue populations of amphibians (an urgent task given the current lack of any wild cure for chytridiomycosis).

## Action

The ASA is guided by the Amphibian Conservation Action Plan (ACAP), which provides an essential road map to direct global amphibian conservation actions.



## Vision

**Our vision, and that of all ASA partner organizations, is Amphibians Thriving in Nature.**

**We strive towards a world where amphibians are valued for their astonishing beauty, variety and contributions to the planet. We seek to preserve this variety for the future of the earth, as part of healthy ecosystems.**

First produced in 2007 and updated in 2015 by the IUCN SSC Amphibian Specialist Group (ASG), ACAP now exists as a dynamic, living document on [www.amphibians.org](http://www.amphibians.org). It is being regularly updated to reflect the latest imperatives in conservation science, practice, and policy, and it tackles key issues and approaches relevant to amphibian conservation.

ACAP currently comprises over 400 recommendations from 12 expert Working Groups (ranging from habitat protection, to emerging infectious diseases and species conservation strategies). These Working Groups are coordinated by ASG and some of them are supported by AArk.

ASA coordinates the implementation of ACAP across a strong and engaged global partnership of organizations. ASA plays a crucial role in driving the most appropriate and timely conservation actions for amphibians, and tracking progress as ACAP continues to evolve.

ASA takes a four-pronged approach to implementing the ACAP:

**1. Partnership:** Amphibian conservation needs an active network of local partners around the world.

ASA coordinates a collaborative global network, encouraging new organisations and groups to join the cause. ASA helps to create resources to inform conservation efforts, guiding the identification of conservation priorities for individual species (e.g. through support of amphibian extinction risk assessment updates on The IUCN Red List of Threatened Species) and habitats (e.g. through the Key Biodiversity Areas Partnership). Our primary aim is to ensure that our partners work together to implement the ACAP. ASA tracks progress on implementing ACAP, and keeps partners informed of all developments.



**2. Priorities:** We highlight species and habitat conservation priorities, working closely with the ASG Amphibian Red List Authority, AArk, and the Key Biodiversity Areas Partnership. Our aim is to direct the efforts of our partners to meet these priorities, ensuring that urgent conservation needs are addressed in the most efficient manner possible. Our top priorities for 2017-2021 include: conservation information and planning (crucial information linked to the development of effective conservation actions); habitat protection; combating emerging infectious diseases; trade and over-exploitation; and communication and education.

**3. Investment:** ASA works to stimulate new investment in amphibian conservation actions by supporting diverse fundraising activities, directing funds strategically throughout the partnership, and encouraging our partners to invest in implementing ACAP.

**4. Communication:** ASA, both centrally and through our partnerships, promotes: the dissemination of important updates to diverse groups; the stimulation of applied conservation research; the production of educational materials relevant to different audiences; and media

coverage related to amphibians and their conservation (from print and radio, to social media and television/film). We work to raise the profile of this global conservation challenge and ensure that our partnership is supported by relevant information resources.

To make all this happen, Synchronicity Earth has prioritized funding the basic operations of the ASA, including the salary of the Executive Director. We believe by helping to make sure that the ASA can run effectively, it is then freed up to focus its energies on saving amphibians, rather than trying to survive as an institution.

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## Moving In The Right Direction

The need to conserve amphibians remains critical. However, there are several reasons to be hopeful:

1. There is now momentum to conserve amphibians. The idea of more than 100 organizations coming together in the ASA would have been unthinkable a decade ago.
2. Most threatened amphibian species have tiny ranges. In some cases really tiny, only a few hectares. It is possible to save many amphibian species simply by securing a few square kilometres of habitat. Such an approach wouldn't work for birds, mammals and most other species. In short, an amphibian can often be saved for much less money than most other species.
3. Though the disease chytridiomycosis remains a huge problem, all sorts of innovative solutions are being tested to combat it in the wild, and the hope is out there that it will be possible to find some solutions that work. Furthermore, some amphibian species that were almost wiped out by the disease appear to have developed resistance to it.
4. Public interest in amphibians is growing worldwide. Increasingly people are becoming aware that there is a crisis with amphibians and they want to see it addressed.

## Insight Series: Bringing Conservation to Life

This series describes in simple terms the species, ecosystems and regions that we believe to be the most urgent conservation priorities, globally. We look at key challenges and potential solutions and describe how Synchronicity Earth, along with our partners, is helping to transform robust science into effective conservation action.