Preventing spread of deadly salamander disease in North America
10 December 2015

An emerging fungal pathogen that has caused recent die-offs of salamanders in Europe, faces a formidable foe in North America: the Amphibian Survival Alliance and its partners, who today published a paper outlining the conservation community's proactive efforts to prevent the introduction and spread of the disease in the United States, Canada and Mexico.

"We are more encouraged by this response than any previous response to an amphibian emergency," said James Lewis, ASA's director of operations. "What we have seen here is an amazingly strong collaboration and open response from all stakeholders. We not only have the science community talking, but we also have the pet industry, private pet owners, policymakers, animal welfare advocates and the conservation community putting aside differences and coming together."

It has been one year since scientists in Europe broke the news of their alarming discovery of the pathogen, Batrachochytrium salamandrivorans (Bsal), which is similar to a fungal pathogen that has devastated populations of frogs in the neotropics, Australia and the western United States. The story published today in *PLOS Pathogens* summarizes the swift action the conservation community has already taken to prevent the spread of Bsal in North America and lays out plans to respond swiftly if it does arrive. Some actions have included:

- Partners in Amphibian and Reptile Conservation (PARC) forming a National Disease Task Team to facilitate the development of a strategic plan for Bsal;
- The U.S. Geological Survey and PARC holding workshops on Bsal;
- The creation of a Bsal National Task Force that can address all facets of Bsal preparedness, response, research and management;
- Creation of a website and LISTSERV to disseminate information on Bsal;
- The Association of Fish and Wildlife Agencies (AFWA) working via the Bsal National Task Force Response to develop a customizable Bsal rapid response plan template for both wild and captive salamanders;
- AFWA and ASA working together to draft improved policies for wildlife disease management, using Bsal as an example.

Conservation organizations have also been calling for the U.S. Fish and Wildlife Service (USFWS) to put into place rules that would aid in preventing the fungal pathogen from reaching North America, but so far USFWS hasn't taken such action.

"What we really need is to keep Bsal out of North America as long as possible, allowing us time to better understand this pathogen and how to address it," said Priya Nanjappa, amphibian and reptile conservation policy lead for the Association of Fish and Wildlife Agencies. "Unfortunately the policy tools are just not in place for swift action, even when urgency is required."

"North America's diversity of salamander species truly makes this region of the natural world special," said Matthew Gray, professor of wildlife ecology at the University of Tennessee. "Salamanders provide society numerous benefits including use as educational tools, in carbon cycling, and even in shedding light on biomedical procedures."

"Fifty percent of the 682 salamander species are only found in North America, and in some cases, although they may be cryptic and difficult to find, they make up a significant proportion of the biomass in forests" said Phil Bishop, Professor of Zoology at New Zealand's University of Otago and Chief Scientist for the Amphibian Survival Alliance. "In particular, Mexico and the Appalachian Mountains are collectively home to more than 100 species of..."
lungless salamanders, which could be wiped out by this emerging disease."

**More information:** *PLOS Pathogens,*
[journals.plos.org/plospathogen...](journals.plos.org/plospathogen...)
[journal.ppat.1005251](journal.ppat.1005251)

Provided by University of Otago

APA citation: Preventing spread of deadly salamander disease in North America (2015, December 10) retrieved 11 April 2020 from