This Leap Year, Frogs are Leaping for Their Lives

American frogs and toads are threatened by climate change, but new carbon rules can help.

Climate change as a result of carbon pollution could cause frog species in the United States to croak for the last time. Nearly a third of the world's roughly 6,300 amphibian species are now threatened.[1] Frogs across the United States are already finding themselves running out of habitat and becoming more susceptible to disease.[2] On top of all this, frogs are very sensitive to changes in temperature and moisture, and climate change is altering the very climate they depend upon. As temperatures increase and moisture levels decline, their habitat can dry up. These climate factors have large impacts on their reproductive success, functioning of their immune systems and their sensitivity to chemical contaminants. In short, climate change could be the final straw that pushes already threatened frogs to the brink of extinction.

Contacts:
Joe Mendelson
Policy Director
Climate & Energy Program
Phone: 202-797-6898
Email: MendelsonJ@nwf.org

Corey Shott
Legislative Representative
Climate & Energy Program
Phone: 202-797-6632
Email: ShottC@nwf.org

"Not so fun" Fungus

Many frog populations around the world have recently been decimated by a chytrid fungus, *Batrachochytrium dendrobatidis*, which causes a deadly skin disease in many frog species.[3] Frogs in many tropical regions have seen the greatest impact from this disease as their habitats are shrinking, forcing them into close quarters: the perfect place for the lethal chytrid fungus to spread.

In the United States some frogs, such as the Sierra Nevada Yellow-Legged frog, are fighting a losing battle against the chytrid fungus, among other factors, as their habitats shrink. Combine the spread of this disease with the impacts of climate change, and you get a one-two punch that is knocking many frog species down for the count.

Frog or Toad?

- Most frogs have wet skin with long hind legs ideal for jumping and some frogs even climb trees.
- Most toads have dry, warty skin and are fatter and rounder. They have short hind legs and hop closer to the ground.

Climate Troubles for the Houston Toad

Some frogs and toads like the Houston Toad live in the top 1-2 inches of moist soil around ponds and lakes. But severe drought in recent years has caused those ponds and lakes to disappear. Add in recent wildfires that burn away the moisture in those top 2 inches of soil and we are witnessing the rapid decline of this iconic Texan toad. Unfortunately, this is a common story for many species of frogs and toads in the United States.

Houston Toad
Photo by: USFWS, Paige Najvar

CONFRONTING GLOBAL WARMING

Fact Sheet

America's frogs need the new carbon rules to slow climate change.

Sierra Nevada Yellow Legged Frog

In the early 20th century, this yellow legged frog was seen as one of the most abundant frog species in the Sierra Nevada Mountains of California.[4] Sadly, it has disappeared from over 90% of its mountain habitats and is fighting for survival. Widespread introduction of trout to many previously fishless ponds throughout their habitat is known to have contributed to their decline. Pesticides and the chytrid fungus may also be adding to its disappearance. Now climate change poses another threat. Reduced snowmelt from climate change has decreased the size and number of ponds in its native region, leaving some of these frog populations with no place to call home.

Sierra Nevada Yellow Legged Frog
Photo by: USFWS, Rick Kuyper

Blanchard's Cricket Frog

Measuring less than an inch in size, this tiny frog is capable of bounding up to heights of 3 or 4 feet high![5] Often confused for crickets because of its small size and leaping ability, the Blanchard Cricket Frog is native to nearly 20 states in the South and Midwest. Forty years ago, this frog was common throughout much of the United States. But in recent decades, nearly every state that contains this species of frog has reported declines in populations. Frogs like the Blanchard Cricket Frog are very dependent upon specific climate ranges and temperatures. Their limited ability to migrate makes them especially vulnerable to local climate changes.[5] Minor shifts in temperature and moisture caused by climate change could be the x-factor that causes these frogs to disappear.

Blanchard's Cricket Frog
Photo by: Photobucket, Andy_avram

Coal Fired Power Plant
Photo by: J.C. Willett - USGS

Carbon and Climate Change

While there are many reasons why so many frog species around the world are declining and disappearing, climate change is making the problem even worse. Carbon pollution from coal-burning power plants, refineries, and vehicles is causing worldwide climate change. Thankfully, EPA is taking action to limit our nation's carbon pollution from new and existing power plants. These standards will limit the amount of harmful carbon pollution that is being dumped into the atmosphere. The sooner we can reduce carbon pollution, the greater chance we will have to slow climate change. This year, take action to protect frogs and support EPA's new rules to limit carbon pollution from power plant smokestacks so we can take a leap forward in the fight against climate change.

For more information visit: www.nwf.org/cleanair

[1] http://amphibiaweb.org/declines/declines.html
[2] Information on amphibian biology and conservation. [web application]. 2012. Berkeley, California: AmphibiaWeb. http://amphibiaweb.org/.
[3] http://www.scientificamerican.com/article.cfm?id=frog-killing-chytrid-fungus-climate-fluctuations
[4] http://www.nwf.org/News-and-Magazines/National-Wildlife/Animals/Archives/2010/Most-Threatened-Frogs-US.aspx.
[5] McCallum M.L. 2010. "Future climate change spells catastrophe for Blanchard's cricket frog, Acris blanchardi (Amphibia: Anura: Hylidae)". *Acta Herpetologica.* 5 (1): 119-130.