

THE HEAT IS ON

Species feeling the effects of climate change



Boreal Chorus Frog

Pseudacris triseriata maculata

Region:

Rocky Mountains

Area affected:

Yellowstone National Park

Climatic change:

Increased incidence of drought

Impact:

Loss of breeding habitat

ABOUT THIS SPECIES

The boreal chorus frog is found throughout much of the upper Midwest and Rocky Mountain states. One of the smallest frog species, adults range in size from 0.5 to 1.5 inches. They are variable in color, but usually have two sets of blotches running down their back. In early spring they congregate near small ponds and lakes, where males give their signature “chorus” calls to attract females, which lay their eggs in the water after breeding. Of particular importance to the species are small temporary ponds, called vernal pools, which form in spring when rain and snowmelt collect in low areas and dry out in late summer. The late-summer disappearance keeps the pools free of fish that would prey on eggs and tadpoles, which require about two months to complete metamorphosis into adult frogs. It is important that the vernal pools and ponds retain water for that full period: if they dry out before the tadpoles complete their development and can breathe air, the young will die. Outside of the breeding season, these frogs range relatively far upland (up to a quarter-mile from water), eating small insects.

DESCRIPTION OF IMPACT

Yellowstone National Park is one of the nation’s largest and oldest nature preserves, and thus protected from many threats to boreal chorus frogs, such as habitat conversion and water diversion. But even Yellowstone cannot escape the effects of climate change. The region has been subject to a warming and drying trend in recent decades, including the most prolonged severe drought of the past century between 2000 and 2007. Researchers observed that 19 out of 49 ponds that had been present in the park in 1992 dried out during the drought, and that eight of these remained dry even after a wet year in 2008. **The number of boreal chorus frog populations declined by 75 percent from 1992 to 2008: In 1992 to 1993 they were found in 20 of 42 ponds surveyed, but only in five over the period of 2006 to 2008.**

References

McMenamin, S. K., E. A. Hadly, C. K. Wright. 2008. Climatic change and wetland desiccation cause amphibian decline in Yellowstone National Park. *Proceedings of the National Academy of Sciences* 105(44): 16988-16993. <http://www.pnas.org/content/105/44/16988.full>

Montana Field Guide. Boreal chorus frog (*Pseudacris triseriata maculata*). <http://fieldguide.mt.gov/speciesDetail.aspx?elcode=AAABC05130>



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