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## Health evaluation of amphibians in Rocky Mountain National Park

Populations of boreal toads (*Bufo boreas*) and northern leopard frogs (*Rana pipiens*) have declined severely and populations have been extirpated in the southern Rocky Mountain region in the last 20 years. Recent studies have implicated chytrid fungus infection in the decline of toad populations and ranaviruses in mass mortality events in tiger salamanders (*Ambystoma tigrinum*) in this region. We conducted a health survey of endemic amphibians in and adjacent to Rocky Mountain National Park (RMNP) in an effort to document current disease problems within the Park and identify disease issues outside the Park with the potential to affect populations inside the Park. Amphibians (*A. tigrinum*, *B. boreas*, *B. woodhousei*, *Pseudacris maculata* and *R. sylvatica*) from 8 sites within RMNP and 7 sites <150 Km of Park boundaries were collected and examined. 229 amphibian eggs, larvae and post-metamorphs were subjected to necropsy, virus, bacterial and fungus cultures, radiography and histology. Swabs from an additional 14 captured and released adult toads also were cultured. Severe infections by *Batrachochytrium dendrobatidis* were detected in post-metamorphic amphibians in 3 of 5 species (*B. boreas*, *P. maculata*, and *R. sylvatica*) from 5 of 8 sites within RMNP and in 1 of 3 species (*P. maculata*) from 3 sites outside the Park. Of the post-metamorphic animals (*B. boreas*, *P. maculata*, and *R. sylvatica*) tested, chytrid was found in 50%, 46% and 58%, respectively. Bacterial and fungal cultures were attempted on 74 and 68 amphibians, respectively. Virus cultures were completed on 176 amphibian egg masses, larvae and post-metamorphs; no evidence of *Ranavirus* was found in cultures or histological examinations. Chytridiomycosis was the only lethal pathogenic infectious disease detected in 3 endemic amphibian species within or adjacent to the Park. The high rates of chytrid infection in chorus and wood frogs suggest population declines either have, or will occur.