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John MacGregor

Kentucky Department of Fish and Wildlife Resources

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Amphibians and Reptiles of Mammoth Cave National Park: What Have We Learned After 13 Years of Monitoring?

John MacGregor¹

¹ Kentucky Department of Fish and Wildlife Resources

Abstract

The documented herpetofauna of Mammoth Cave National Park includes 14 kinds of frogs and toads, 16 salamanders, 8 lizards, 22 snakes, and 9 turtles for a total of 69 species. Inventory and monitoring surveys for amphibians and reptiles have been conducted by the author over the past 13 years (2003-2015). Multiple visits (up to 20 /year) have been made to the park each year. Major techniques used have included the placement and repeated checking of coverboards, the overturning and replacement of natural cover (rocks, logs, leaf litter), targeted searches for amphibians in and near ponds, vernal pools, springs, and streams, road cruising (mostly at night) for snakes, frogs, and salamanders, listening to frog choruses, and various canoe trips and other visual surveys. Most amphibian and reptile species known historically from the park appear to be doing well, and some are even increasing in number. However, at least six reptiles documented from the park during early surveys in the 1930s appear to have been extirpated, undoubtedly due to habitat loss as grasslands, pastures, and open woodlands have largely disappeared during 75 years of fire suppression and uncontrolled reforestation. Amphibians in general have fared better but the eastern tiger salamander seems gone from the park and eastern narrowmouth toads have become quite rare (both also seem to require open habitats). In addition, northern dusky salamanders, abundant at several sites at Mammoth Cave as recently as the mid-1960s, are now known from only two locations even though other semiaquatic salamanders with similar habitat requirements are doing quite well. Looming on the horizon are several newly-discovered amphibian diseases that I believe are responsible for causing major die-offs of frog and salamander eggs and larvae in ponds on the park. At the present time the only way to identify the causative agents is to catch die-offs while they are in progress so proper samples can be collected and tested.