

## Reptiles and amphibians surviving in isolated natural area

Rock Creek Park, approximately 1,754 acres (702 ha), lies within the boundaries of Washington, D.C. Urban growth and development have encroached upon the park since its establishment in 1890 as a natural area. Development and manipulation of the environment have reduced critical reptilian and amphibian habitats to small, isolated areas, and some habitats have disappeared altogether.

Rock Creek Park in partnership with Robin E. Jung of the U.S. Geological Survey (USGS), Patuxent Wildlife Research Center, is conducting an inventory and monitoring study of the reptiles and amphibians in the park as part of the Northeast Amphibian Research and Monitoring Initiative (NE ARMI). The unique location of the park as an island of nature surrounded by residential development has led to its selection as one of the “index sites” for the NE ARMI. Beginning in 2001, NPS and USGS employees intensely surveyed many of the ephemeral pools, streams, springs, and seeps located in the park (figs. 1 and 2). Methods include egg mass counts in the ephemeral pools to document species use and population trends, larval surveys using dip nets at the pools to determine tadpole species and numbers, cover-board surveys using pieces of plywood cut into different sizes to determine species utilization of park areas, and streamside salamander surveys using transects and quadrats to estimate streamside salamander populations. Investigators will analyze this information in relation to a group of environmental and landscape variables and compare the data to other parks and refuges as part of NE ARMI.

While several species historically found in the park have disappeared, investigators have documented 15 salamander and reptile species and rediscovered one salamander species, northern red salamander (*Pseudotriton ruber*) which had not been recorded in the park for 15 years (fig. 3). Through the combined efforts of park

staff and Jung, the presence and abundance of the reptiles and amphibians found in Rock Creek Park will be documented. They will also make recommendations to protect and restore habitats for reptiles and amphibians. Because of the baseline inventory data being collected, park staff will be able to develop a monitoring protocol that can be implemented to help protect critical habitats and ensure the survival of these species into the future.

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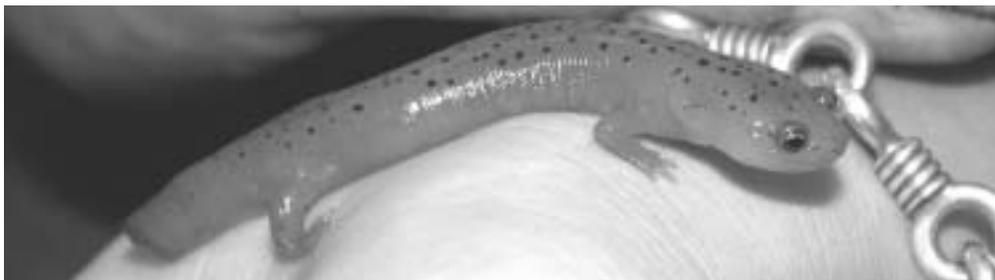


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Figures 1 and 2 (above). Ephemeral ponds located in the northern end of the park are critical habitat for egg laying and larval development of salamanders, frogs, and toads.

Figure 3. A northern red salamander (*Pseudotriton ruber*), found in a groundwater seep adjacent to a tributary of Rock Creek, is the first recorded in the park in 15 years.



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