



## Amphibian Monitoring at Rock Creek: 2011 Update

### Overview

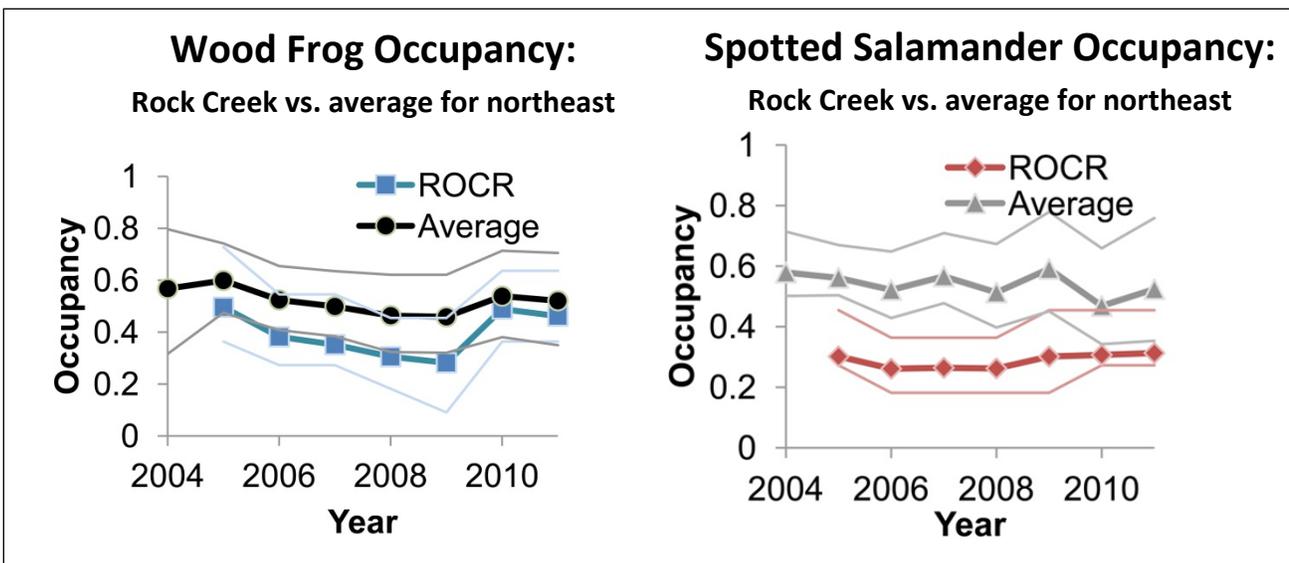
This update presents data from the 2011 monitoring season for stream and vernal pool-breeding amphibians in Rock Creek Park (ROCR). The National Capital Region Network Inventory & Monitoring program (NCRN I&M) and Rock Creek staff have monitored amphibians yearly in ROCR since 2005.

The goals of amphibian monitoring include determining the current distribution and status of amphibian populations, determining possible causes for changes to amphibian populations, and providing park managers with the information necessary to make management decisions.

### Vernal Pool Species Occupancy

In 2011 we visited 6 vernal pools in ROCR up to three times during the year. Data from these pools were compared to data from similar monitoring at fifteen other national parks and wildlife refuges across the northeast United States. Across the northeast, there was little difference in the average estimated occupancies between wood frogs (*Lithobates sylvatica*) and spotted salamanders (*Ambystoma maculatum*); credible intervals overlapped substantially across all years of the study. There were no substantial declines in occupancy at the regional level, though a shallow downward trend is indicated in the data for both species.

At ROCR, both wood frogs and spotted salamanders have lower occupancy than the average across the northeast; early drying of sites has been observed in multiple consecutive years. Considering the small number of habitats in the park, populations are limited by habitat availability and may be at increased risk of local extinction.

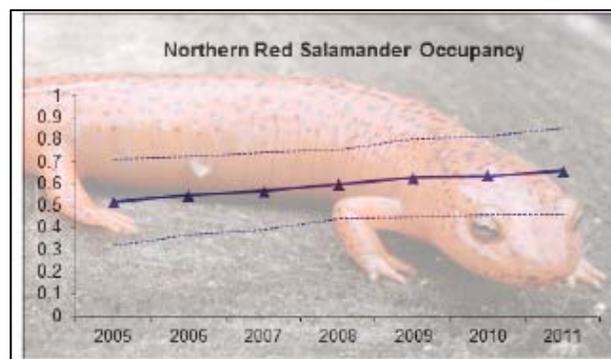
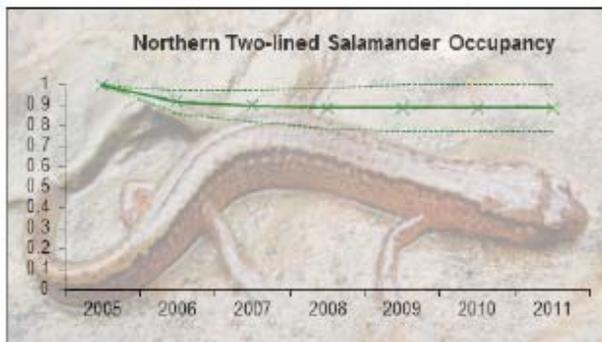




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### Stream Species Occupancy

In 2011, we visited 11 monitoring sites on 5 streams. We encountered three species of stream salamanders in Rock Creek: northern dusky salamander (*Desmognathus fuscus*), northern two-lined salamander (*Eurycea bislineata*), and northern red salamander (*Pseudotriton ruber*). The occupancy rate for these stream salamanders at Rock Creek is relatively stable. However, stream drying in recent years has decreased our ability to detect some species, even though populations may remain unchanged.



### Further Information:

NCRN I&M Amphibian Monitoring Webpage: [http://science.nature.nps.gov/im/units/ncrn/monitoring\\_amphibians.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_amphibians.cfm)

Campbell Grant, E. H., E. F. Zipkin, and A. B. Brand. 2011. National Capital Region Network 2009 amphibian monitoring: Synthesis of 2005-2009 data. Natural Resource Technical Report. NPS/NCRN/NRTR—2011/414. National Park Service, Fort Collins, Colorado. [https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=423765&file=NCRN\\_Amphibian\\_Monitoring\\_Report\\_2010.pdf](https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=423765&file=NCRN_Amphibian_Monitoring_Report_2010.pdf)

Mattfeldt, S. D., E. H. C. Grant, and L. L. Bailey. 2008. Amphibian Monitoring in the National Capital Region: A focus on lentic and lotic habitats. Natural Resource Technical Report. Natural Resource Report NPS/NCRN/NRTR—2008/088. National Park Service, Center for Urban Ecology, National Capital Region, Washington, DC. [https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=152608&file=NCRN\\_Amphib\\_Monitoring\\_Rpt\\_2007.pdf](https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=152608&file=NCRN_Amphib_Monitoring_Rpt_2007.pdf)

Northeast Amphibian Research and Monitoring Initiative of the USGS: [www.pwrc.usgs.gov/nearmi/](http://www.pwrc.usgs.gov/nearmi/)