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Newsletter of Natural Resources in the National Capital Area

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Results of I&M Soil Study

The National Capital Region Inventory & Monitoring Network (NCRN I&M), recently completed a study and formal report on forest soils. Highlights from the study include discussion of soil parent materials, heavy metal pollutants like lead, and how past land use left its mark on the upper organic layer of soils (the O horizon).

Importance
Soils are the foundation of land-based ecosystems. They affect all parts of the environment: water, atmosphere, animals, vegetation, and climate.
NCRN I&M collected data on soil chemistry and physical characteristics in 426 permanent forest vegetation monitoring plots in 11 parks between 2007 and 2017. The goal of this study was to better understand soil function and the influence of soil structure and nutrients on vegetation in the forested ecosystems of parks monitored by NCRN I&M. Read More.

[Photo: Soil sampling at C&O Canal NHP in 2015. Credit: NPS/Coriell]

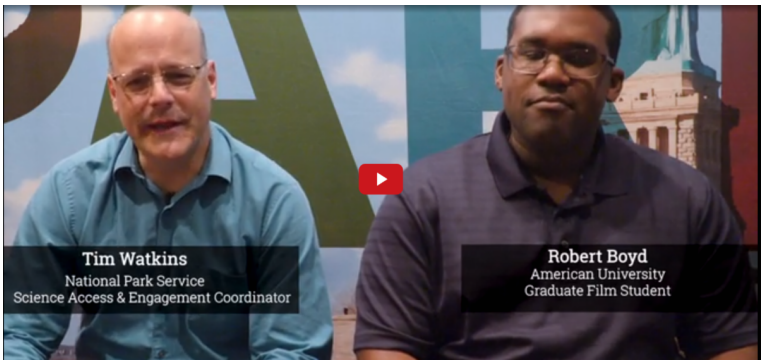
Amphibian Disease Risk in the NCA

By Evan Grant, Research Wildlife Biologist with the U.S. Geological Survey and collaborator with the NPS National Capital Region Inventory & Monitoring Network

Spring weather brought rains to fill dry wetland basins and the gathering of many salamanders, frogs, and toads at wetlands to breed. Following breeding, larvae race to metamorphose before ponds dry as trees respire water and the summer sun evaporates surface water. For some species, this season also brings the risk of disease outbreaks before individuals disperse into the forests to forage and overwinter. Breeding pools can create ideal habitats for disease to spread, with their warmer temperatures, many individuals packed into a small area, and amphibians already stressed by competition or limited food. **Read More**

[Photo: While testing amphibian health, scientists follow strict hygiene measures to avoid disease spread, using new sterile gloves and swabs for each animal as well as disinfecting all equipment between sites. Credit: Grant/USGS]

New Videos: Parks in Science History



The National Park Service recently released two new videos about national parks that have played important roles in the history of science. The videos appear as new chapters to the article series: Parks in Science History (previously covered in the Summer 2019 issue).

Chapter 9 on Island Biogeography shows how a famous 50 year old experiment at Everglades National Park helped explain why islands of different sizes and distances contain different numbers of species. The experiment, by Dan Simberloff, was a test of a model by MacArthur and Wilson and is itself now an iconic and widely influential study in ecology and conservation biology.

Chapter 10 on Plant Succession features Indiana Dunes National Park where, in the 1890s, Henry Cowles conducted the first field studies of plant succession (how species of plants replace each other over time, as when a field converts to a forest). Succession has been one of the central and most enduring concepts in all of ecology ever since.

Both new films were produced by American University graduate student Robert Boyd as part of his MFA with funding facilitated by the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CW CESU).

The CW CESU promotes stewardship and integrated ecosystem management of natural and cultural resources in the Chesapeake Watershed through collaborative research, technical assistance, and education. To do research with CW CESU, please contact Danny Filer at 301-689-7108.

[Video still: National Parks in the History of Science: Plant Succession. Credit: NPS/Robert Boyd]

Update on I&M: October 15

Mark your calendar: **October 15, 10:00 to 11:00 am** for a Teams update on Inventory & Monitoring in National Capital Area parks.
This event is both a good introduction to I&M for new staff, and an update for those who already know I&M since it will include some of their latest data. And while the update will focus on natural resource issues, staff from all divisions, parks, and the region are welcome to join.
This event is in part a replacement for I&M park visits which typically occur in spring and could not occur this year.

A Look Ahead...

Coming in the next issue: Spotted lanternfly in perspective. How it differs from emerald ash borer (EAB), what host species are at risk, and how it affects them.

[Photo: A spotted lanternfly with wings folded back. Credit: Bugwood]

Nature News Round Up: ICYMI

In Case You Missed It (ICYMI), here's a round-up of nature news and resources from the last quarter that may be of interest to those working with natural resources in the National Capital Area. This includes articles from InsideNPS and the NCA Informer (NPS-only access), NPS press releases, and new NPS web content.

Celebrate Founders Day with the Connected Conservation Crew! (InsideNPS: 08/25/2020)

2019 NPS Director's Wes Henry Excellence in Wilderness Stewardship Award Recipients (InsideNPS: 08/25/2020)

NPS will reduce deer populations in Rock Creek Park and other national parkland in DC (News Release: 08/07/2020)

At-Risk Species Program--New Resources (InsideNPS: 08/06/2020)

More Than Just a Week: Latino Conservation (InsideNPS: 08/04/2020)

New Integrated Vulnerability Assessment for Fire Island National Seashore (InsideNPS: 07/20/2020)

"A Sense of Place Stories of Stewardship in the National Park Service" podcast debuts (InsideNPS: 07/15/2020)

Geospatial Insights Newsletter May/June 2020 (InsideNPS: 07/09/2020)

NPS on the Lookout for New Invasive Species (InsideNPS: 07/08/2020)

First International Amphibian Week is June 1- 7, 2020 (InsideNPS: 06/01/2020)

NRS Field Work in Your Park

During fall (September - November), programs from the office of Natural Resources and Science (NRS) are typically in parks doing field work.

I&M Forest Vegetation Monitoring: restarted in July and will close at the end of September.

I&M Marsh Elevation (SET: Surface Elevation Table) Monitoring: restarts. Timing to be determined in late fall/early winter. Occurs in freshwater tidal marshes.

I&M Water Monitoring restarts on a bi-monthly basis in October at all I&M parks except C&O Canal.

Invasive Plant Management Team (IPMT) field work resumed on June 23. In July and August, IPMT primarily focused on control of wavyleaf basketgrass, Japanese stiltgrass, and mile-a-minute across the region. As treatment of many annual species comes to an end, in upcoming months IPMT will focus on control of black fountain grass, common reed, barberry, and many other invasive shrubs. For more information about late summer and fall treatments, please contact Alex Voznitza by NPS email.

[Photo: Water monitoring at Henson Creek. Credit: NPS]

Calendar

2020

SEPTEMBER
23-24. NCA Grasslands Workshop. Virtual sessions 9:00 am to noon on both days. Contact J. Patrick Campbell by NPS email for more information.

OCTOBER

7 - 8. 2020 Spotlight on National Park Resources in the National Capital Region. Virtual sessions on both mornings. Contact Ann Gallagher by NPS email for more information

15. Update on Inventory & Monitoring. A 1-hour Teams meeting on natural resource monitoring. All are welcome. Invitation forthcoming. 10:00 - 11:00 am. Contact Megan Nortrup for more information.

28. Chesapeake Watershed Cooperative Ecosystem Studies Unit (CW CESU) Annual Meeting. Virtual meeting from 9:30 am - 11:30 am. Visit the CW CESU website for more information.

Submit your ideas for the next Natural Resource Quarterly newsletter.

The Natural Resource Quarterly provides updates on the status of natural resources and science in the parks of Region 1 - National Capital Area.

NCA Natural Resources | Previous Issues | NCR Inventory & Monitoring