



NCRN Natural Resource Quarterly

WINTER 2012

Understanding Cultural Landscapes

by Frances McMillen and Cultural Landscape staff

Cultural landscapes are more familiar than you think. This article attempts to explain them, and to introduce you to the work of some of your cultural resource colleagues in the National Capital Region (NCR).

What Exactly is a “Cultural Landscape”?

Cultural landscapes are a record of our interaction with the environment. They tell us how land was used for farming, recreation, rituals, and defense. Whether a landscape is a cemetery, urban park, battlefield, or a historic estate, it offers us a sense of place and a window onto our history and heritage.

Cultural landscapes are defined as “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.”¹ They consist of natural and constructed features, including waterways and wildlife, formal gardens, fields, roads, buildings, and memorials—all the elements that contribute to the significance of a site and convey its historic character.

The National Capital Region has 233 identified cultural landscapes that range greatly in size, character, and significance. From the battlefields of Manassas and Antietam, to



Photo: NPS

As a cultural landscape, many significant elements make up McPherson Square including benches, pathways, fencing, vegetation, and McPherson’s statue.

Washington’s triangle parks, the White House, Harpers Ferry, and Frederick Douglass’s Cedar Hill, the region is home to historic farms, designed spaces, and some of the nation’s most historic and iconic landscapes.

The Cultural Landscapes Program in the NCR

The NCR Cultural Landscapes Program (CLP) is an interdisciplinary team of landscape architects, a historian, and an archeologist that study these landscapes. The CLP researches landscape histories, documents and evaluates landscape features, and makes treatment recommendations (management actions) to ensure the survival of these significant places. The CLP inventories all the features that contribute to the historic character of a site, such as vegetation (native or introduced); furnishings (benches, lights, and fences); circulation features (roads, (Continued page 2)

¹ Robert Page, et al. A Guide to Cultural Landscape Reports: Contents, Process, and Techniques (Washington, DC: Department of the Interior, 1998), 12.

In This Issue:

- | | |
|---|---|
| 1 Understanding Cultural Landscapes | 3 Pilot of Continuous Water Loggers Tested by Hurricane Sandy |
| 1 Coming to Your Park this Winter... | 4 New Natural Resource Materials |
| 2 How Soil Affects Forests & a Soil Team Success! | 4 Calendar |

Coming to Your Park this Winter

	ANTI*	CATO	CHOH	GWMP	HAFE	MANA	MONO	NACE	PRWI	ROCR	WOTR
Macroinvertebrate Monitoring	x				x			x			
Water Monitoring	x	x		x	x	x	x	x	x	x	x

activities scheduled for Dec/Jan/Feb

*Park acronyms on page 2

trails, and steps); topography (terraces and natural land forms); buildings (houses, sheds, and memorials); and water features (irrigation ditches, canals, and fountains); as well as changes and additions to a landscape since the historic period. The purpose of the CLP is to document the National Park Service's cultural landscapes and to provide recommendations for preserving their integrity and to make history readable in the landscape for park visitors.

The CLP has completed 61 Cultural Landscape Inventories (CLIs) and numerous Cultural Landscape Reports (CLRs) for the NCR. The CLIs are kept in a National Park Service database also called "the CLI." Individual CLIs



Photo: NPS

A Cultural Landscape Inventory was completed for the Brawner Farm at Manassas NBP in 2009. A few years prior, a Cultural Landscape Report on the site called for clearing approx. 140 acres of mature forest to reestablish sight lines present during the Second Battle of Manassas.

provide baseline research, documentation, an analysis of integrity, and an assessment of the condition of a park cultural landscape. The CLI database is updated frequently as new inventories are completed, landscape conditions change, or new information about sites becomes available. Recently completed CLIs include Williamsport (CHOH), Newcomer Farm (ANTI), Harmony Hall (NACE), and Washington Circle (NAMA).

Cultural landscape reports (CLRs) include more comprehensive research, documentation and analysis, and provide treatment recommendations and guidance for future management. Reports on historic fencing and vegetation at Manassas, Rock Creek Park's trail system, and Monocacy's Thomas and Worthington farms are currently underway. Treatment guidelines follow NPS and DOI policies and comply with federal laws, including the Americans with Disabilities Act. Thoughtful consideration is also given to finding a balance between cultural and natural resources within cultural landscapes by incorporating sustainable practices. These include protecting and restoring riparian, wetland, and shoreline buffers, minimizing developments on prime farmland, preserving and reestablishing native vegetation, improving and protecting wildlife habitat, and reducing the use of impervious surfaces.

Learn more about the NPS cultural landscapes across the nation at: http://www.nps.gov/cultural_landscapes/.

How Soils Affect Forests and a Soil Team Success!

Is there a link between soil acidification (pH) and an area's resistance to invasive plants? How do soil carbon to nitrogen ratios (fertility) or the relative abundance of calcium in a forest soil affect the plant species present? These are a few questions that NCRN I&M hopes to answer.

In recent years, NCRN I&M has sampled forest soils during routine forest vegetation monitoring across the region. Data is gathered on leaf litter, soil horizons, porosity, density, texture, structure, and color. Samples are also assessed for chemical/nutrient makeup.

Thus far, data has not yet been gathered at all of the 400+ forest vegetation plots in the NCRN, so there are no results to report. However, we are proud to say that the 2012

I&M soil monitoring team consisting of Ryan Adams, Davinia Forgy, and Tyler Witkowski recently placed 2nd overall in the 2012 Northeast Regional Soil Judging contest. The trio are all soils students at the University of Maryland and are now qualified for this spring's national soil judging competition in Wisconsin. As an individual competitor, Davinia Forgy finished 3rd overall! Way to go soils crew!

To learn more about NCRN I&M forest vegetation monitoring, visit http://science.nature.nps.gov/im/units/ncrn/monitoring_veg.cfm.



Photo: NPS/Paradis

Measuring soil horizons

Park Acronyms

ANTI = Antietam National Battlefield
CATO = Catocin Mountain Park
CHOH = Chesapeake & Ohio Canal National Historical Park
GWMP = George Washington Memorial Parkway
HAFE = Harpers Ferry National Historical Park
MANA = Manassas National Battlefield Park

MONO = Monocacy National Battlefield
NACE = National Capital Parks - East
NAMA = National Mall and Memorial Parks
PRWI = Prince William Forest Park
ROCR = Rock Creek Park
WOTR = Wolf Trap National Park for the Performing Arts



Photo: NPS/Watts

From left: Continuous water loggers inside protective plastic cage. Attaching cage to stream bed with rebar stakes. Installation completed.

Pilot of Continuous Water Loggers Tested by Hurricane Sandy

It was a stroke of luck really, but when hurricane Sandy came through, NCRN Inventory & Monitoring (I&M) had just deployed a series of continuous water loggers for testing. Continuous water loggers are pretty impressive devices. They measure water qualities like pH, salinity, and temperature, all day and all night. As often as every minute. They're best at showing how water quality changes throughout the day and the effects of rainfall events. The loggers were deployed as a way to test the expansion of existing water monitoring efforts and to get hands-on experience with installation, maintenance, and data retrieval from loggers.

In 2011, I&M began pilot testing loggers that measure salinity and temperature in the Potomac River near Fort Hunt in GWMP and Colonial Farm in NACE's Piscataway Park. The loggers measure any changes in salinity caused by rainfall, drought, or sea level rise.

In early October, water level, dissolved oxygen, conductivity, and temperature loggers were deployed in streams at Prince William Forest Park and Manassas National Battlefield Park. These loggers could supplement the monthly water quality and quantity monitoring NCRN I&M has done since 2005.

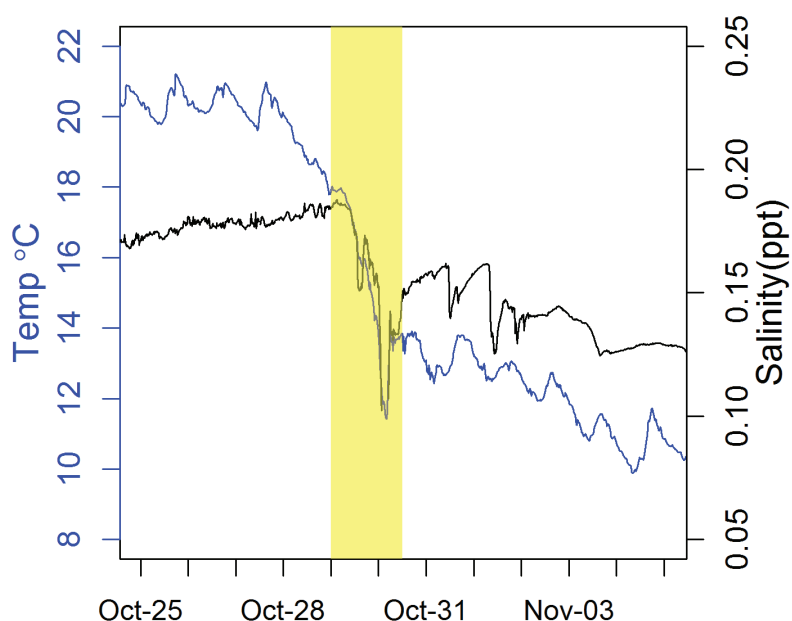
The water loggers themselves are about size of the cardboard tube inside a roll of paper towels, and can be sensitive to clogging or storm debris. So I&M hydrologists, with help from the regional Exotic Plant Management Team staff, created cages to protect stream-deployed loggers using repurposed plastic soda crates. The new cages protect the data loggers from debris while allowing water to flow through to the sensors. Rebar stakes fasten the cages (with loggers inside) to the stream bed. The loggers deployed in the Potomac are housed in perforated PVC pipe but how

to install them was a little more tricky. On the Maryland side loggers are attached to a dock piling and in Virginia they're attached to a large concrete weight.

When Hurricane Sandy hit at the end of October, these installation methods were tested and fortunately, no loggers were lost. Results from the Potomac River logger at Fort Hunt are below. The salinity and temperature loggers were set to take readings every 15 minutes.

More water loggers will soon be installed at Rock Creek and Wolf Trap Creek. For more on NCRN I&M monthly water monitoring of almost 20 water parameters visit http://science.nature.nps.gov/im/units/ncrn/monitor/water_quality/index.cfm.

Temperature & Salinity Levels: Potomac River at Fort Hunt



Temperature levels (blue) and salinity levels (black) in the Potomac River near Fort Hunt changed dramatically during Hurricane Sandy (yellow bar).

NCRN I&M/Schmit

New Natural Resource Materials

Bat Webinars

Recent NPS webinars on “Bats in Buildings” and “White Nose Syndrome” are available on www.nature.nps.gov/biology/wns/webinars.cfm.

Landscape Protocol

An NCRN landscape monitoring protocol is now complete: “Remote Sensing and Landscape Pattern Protocol for Land-cover Monitoring of Parks.” The protocol and an accompanying journal article are available through IRMA in

the NCRN Landscape Monitoring Project at: https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=455855&file=NCRN_Landscape_Protocol_v2_0.pdf.

Resource Briefs in Spanish

Read about invasive plants and amphibians in Spanish-language versions of NCRN resource briefs. The new translations and original English versions are all available at http://science.nature.nps.gov/im/units/ncrn/outreach_communication.cfm.

Calendar

Open House at CUE December 5

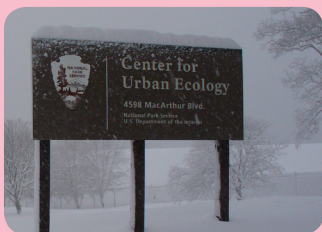
Please join the Natural Resources and Science staff for an Open House at the Center for Urban Ecology on Wednesday, December 5 between 10 am to 2 pm.

The event will feature guest speakers. Come tour the facility and meet our staff!

Snacks and softdrinks will be provided. If you wish to join us for lunch, please bring a potluck dish.

CUE is located at 4598 MacArthur Blvd NW, Washington, DC. Parking is available.

Please RSVP to Ashley Bartlett by NPS email.



13. University of Maryland Pest Management Conference. Carroll Community College, Westminster, MD. 7:30-4:30. \$60. For details call: 301-596-9413.

2013

JANUARY

8-11. 24th USDA Interagency Research Forum on Invasive Species. Annapolis, MD. Contact kmcmamus@fs.fed.us for details.

17. NAT (Natural Resources Advisory Team) Meeting. GWMP.

APRIL

18. NAT (Natural Resources Advisory Team) Meeting. HAFE /Mather Training Center

JULY

18. NAT (Natural Resources Advisory Team) Meeting. NAMA.

DECEMBER

6. 18th Annual Maryland Water Monitoring Council Conference. Maritime Institute, North Linthicum, MD. 7:30-4:30. \$55-\$70. www.marylandwatermonitoring.org.

National Capital Region Network Inventory & Monitoring (NCRN I&M) Staff:

Program Manager: Patrick Campbell
Botanist: John Parrish
Data Manager: Geoff Sanders
GIS Specialist: Mark Lehman
Hydrologic Technician: Jim Pieper
Hydrologic Technician: Tonya Watts
Quantitative Ecologist: John Paul Schmit
Science Communicator: Megan Nortrup

Visit NCRN I&M online at:

Website: <http://science.nature.nps.gov/im/units/ncrn/index.cfm>
Sharepoint: <http://imnetsharepoint/NCRN/default.aspx>
RSS: http://science.nature.nps.gov/im/units/ncrn/rss/ncrn_rss.xml
Twitter: <https://twitter.com/#!/NPSNCRN>

NCRN Natural Resource Quarterly offers updates on the status of park natural resources and Inventory and Monitoring (I&M) “vital signs” for the NPS National Capital Region Network (NCRN).

Questions or comments? Contact Megan Nortrup by NPS email or at 202-339-8314