



# NCRN Natural Resource Quarterly - Winter 2010

Manassas National Battlefield Park

## Coming to Your Park this Winter..

NCRN I&M water monitoring continues in all parks except CHOH.

White-tailed deer monitoring using distance sampling (spotlighting) continues through December in all NCRN parks except WOTR\* and HAFE where monitoring will use pellet group counts.

A macroinvertebrate monitoring team from Versar, Inc. may begin sampling as early as February at six stream sites in PRWI.

## Water Resources Reports Now Available

What's the state of the streams in your park? Does the water chemistry make for a healthy habitat for aquatic organisms, wildlife, and human use? Do streams meet target levels for nitrate, phosphorus, and other nutrients?

To find out, read the chapter on your park in either of two newly released water reports. One report is based on data gathered in 2007-2008 and the other is based on data gathered in 2009. Both include data on water chemistry (pH, dissolved oxygen, specific conductance, temperature, and acid neutralizing capacity), nutrient dynamics, and surface water dynamics (flow and discharge).

Both reports, the NCRN 2009 Water Resources Monitoring Report and the NCRN 2007-2008 Water Resources Monitoring Report are available at [http://science.nature.nps.gov/im/units/ncrn/monitoring\\_products.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_products.cfm).

The NCRN has been monitoring water quality and quantity in the region since 2005 through monthly sampling at more than 40 sites in 10 parks. For details contact Marian Norris by email or at 202-342-1443 x206.

\*Park acronyms on page three.

## Oaks of the National Capital Region

by John Parrish

Did you know that of 50 species of oaks native to eastern North America, 20 are native to National Capital Region Network (NCRN) parks? The most abundant oak in our region is the white oak (*Quercus alba*). Along with white oak, chestnut (*Quercus prinus*), black (*Quercus velutina*), red (*Quercus rubra*), and scarlet (*Quercus coccinea*) are the five most common oaks in the region. These five oaks are distributed in a very wide range across the eastern U.S. from the Canadian border to the Gulf Coast states.



John Borroughs NHS

Less common to our region are eight species with primary ranges in the southeastern U.S. These include basket (*Quercus michauxii*), blackjack (*Quercus marilandica*), overcup (*Quercus lyrata*), post (*Quercus stellata*), Shumard (*Quercus shumardii*), Spanish (*Quercus falcata*), water (*Quercus nigra*), and willow (*Quercus phellos*) oaks. Another six uncommon species of the NCR are more commonly found west of the Appalachian Mountains. These six include bur (*Quercus macrocarpa*), chinquapin (*Quercus muhlenbergii*), dwarf

**White oak is the region's most abundant oak.**

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chinquapin (*Quercus prinoides*), pin (*Quercus palustris*), shingle (*Quercus imbricaria*), and swamp white (*Quercus bicolor*). Yet, another uncommon species, the bear oak has northern affinities and occurs in mountainous terrain in the northwest portion of the NCRN.

There is a chance for a twenty-first species to be found in the NCRN. Pagoda oak, native to the southeastern U.S. is known from sites along the Potomac River just south of Piscataway Park (NACE) near the southern border of the NCRN. Except for pagoda oak, all oak species native to the Potomac River watershed are found in the NCRN.

The diverse array of native oaks here is due to NCRN parks being situated in the Mid-Atlantic Region across four Physiographic Provinces including the Valley and Ridge (ANTI, CHOH), the Blue Ridge (CATO, CHOH, HAFE), the Piedmont (CHOH, GWMP, MANA, MONO, PRWI, ROCR, WOTR), and the Coastal Plain (GWMP, NACE, PRWI).

For further information about oaks and oak distribution go to: <http://www.fs.fed.us/foresthealth/technology/pdfs/fieldguide.pdf>. [Data sources: NCRN I&M data, field observations by NCRN I&M Botanist John Parrish, and Field Guide to Native Oak Species of Eastern North America by J. Stein, D. Binion, and R. Acciavatti, (2003).]

## Freshwater Sponge Report

NCRN I&M water resources staff recently completed a technical report on freshwater sponges in the NCRN. The report describes the basic biology of sponges, their habitat, and the locations in the region where they've historically and recently been spotted. The report is available at [http://science.nature.nps.gov/im/units/ncrn/monitoring\\_macroinverts.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_macroinverts.cfm).



NPS/Watts

A freshwater sponge.

### Oak Species Found in NCR Parks\*

Common Name	Scientific Name	ANTI	CATO	HAFE	MONO	MANA	WOTR	ROCR	CHOH	PRWI	GWMP	NACE
<b>Generalist Species:</b>												
White Oak	<i>Quercus alba</i>	x	x	x	x	x	x	x	x	x	x	x
Chestnut Oak	<i>Quercus prinus</i>	x	x	x	x	x	x	x	x	x	x	x
Black Oak	<i>Quercus velutina</i>	x	x	x	x	x	x	x	x	x	x	x
Red Oak	<i>Quercus rubra</i>	x	x	x	x	x	x	x	x	x	x	x
Scarlet Oak	<i>Quercus coccinea</i>	x	x	x	x	x	x	x	x	x	x	x
<b>Southern Species:</b>												
Basket Oak	<i>Quercus michauxii</i>								x			x
Blackjack Oak	<i>Quercus marilandica</i>			x			x	x		x	x	x
Overcup Oak	<i>Quercus lyrata</i>								x			x
Post Oak	<i>Quercus stellata</i>	x		x		x		x	x	x	x	x
Shumard Oak	<i>Quercus shumardii</i>			x	x	x			x		x	x
Spanish Oak	<i>Quercus falcata</i>					x	x	x	x	x	x	x
Water Oak	<i>Quercus nigra</i>											x
Willow Oak	<i>Quercus phellos</i>					x	x	x	x	x	x	x
<b>Western Species:</b>												
Bur Oak	<i>Quercus macrocarpa</i>			x					x			
Chinquapin Oak	<i>Quercus muhlenbergii</i>	x		x		x		x	x		x	x
Dwarf Chinquapin Oak	<i>Quercus prinoides</i>									x		
Pin Oak	<i>Quercus palustris</i>	x		x	x	x	x	x	x	x	x	x
Shingle Oak	<i>Quercus imbricaria</i>					x	x	x	x		x	
Swamp White Oak	<i>Quercus bicolor</i>	x		x	x	x		x	x	x	x	x
<b>Northern Species:</b>												
Bear Oak	<i>Quercus ilicifolia</i>		x						x			
<b>Park Physiographic Province(s)</b>												
VR=Valley & Ridge, BR=Blue Ridge		VR	BR	BR	PM	PM	PM	PM	PM BR VR	CP PM	CP PM	CP
PM=Piedmont, CP=Coastal Plain												

\*Compiled from NCRN I&M data, field observation by NCRN Botanist John Parrish, and NPSpecies database.

## Summary of NCRN Natural Resource Publications 2010

The list below includes all materials produced on natural resources in the National Capital Region Network during 2010 and where to find them.

### Vegetation:

2009 Forest Vegetation Monitoring Report <sup>1</sup>  
Invasive Exotic Plants Resource Brief <sup>2</sup>  
Plant Invaders of Mid-Atlantic Natural Areas, 4th ed. <sup>3</sup>  
Phragmites Field Guide <sup>3</sup>

### Water and Related:

2007-2008 Water Resources Monitoring Data Report <sup>1</sup>  
2009 Water Resources Monitoring Data Report <sup>1</sup>  
Freshwater Sponge Report <sup>4</sup>  
Freshwater Sponge Resource Brief <sup>4</sup>

### Deer:

2008 Deer Monitoring Report <sup>1</sup>

### Other:

A Photographer's Path <sup>5</sup>  
Amphibian Resource Brief <sup>2</sup>  
Protecting Resources: Assessing Visitor Harvesting of  
Wild Morel Mushrooms in Two National Capital  
Region Parks <sup>6</sup>  
New NCR Geologic Resource webpages <sup>7</sup>

### Available at:

- <sup>1</sup> [science.nature.nps.gov/im/units/ncrn/monitoring\\_products.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_products.cfm)
- <sup>2</sup> [science.nature.nps.gov/im/units/ncrn/network\\_products.cfm](http://science.nature.nps.gov/im/units/ncrn/network_products.cfm)
- <sup>3</sup> Contact Jil Swearingen or visit [www.nps.gov/plants/alien](http://www.nps.gov/plants/alien)
- <sup>4</sup> [http://science.nature.nps.gov/im/units/ncrn/monitoring\\_macroinverts.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_macroinverts.cfm)
- <sup>5</sup> Contact Megan Nortrup
- <sup>6</sup> [www.nps.gov/cue/publications/index.htm](http://www.nps.gov/cue/publications/index.htm)
- <sup>7</sup> [www.nps.gov/cue/geology/index.htm](http://www.nps.gov/cue/geology/index.htm)

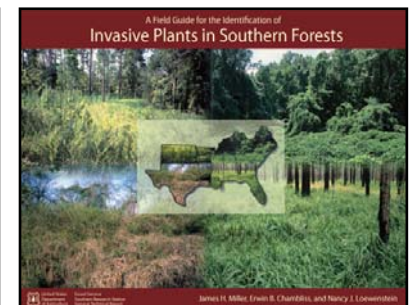
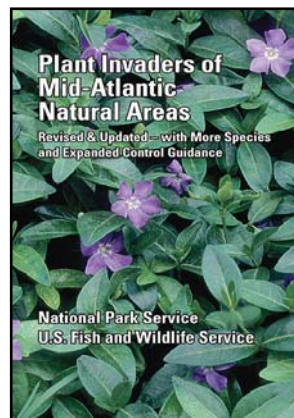
## Invasive Plant Guides

Two new invasive plant books have sprung up recently: a new 4th edition of "Plant Invaders of Mid-Atlantic Natural Areas," and "Invasive Plants in Southern Forests."

The new edition of "Plant Invaders of Mid-Atlantic Natural Areas" includes more species and expanded control guidance than previous editions. Copies are available by contacting author Jil Swearingen by email or at 202-342-1443 x218.

Invasive Plants in Southern Forests is focused on the Southeastern U.S., but many of the included species are also common to the NCRN. For a free copy, email [pubrequest@fs.fed.us](mailto:pubrequest@fs.fed.us) with your name and mailing address along with the following: Title: A Field Guide for the Identification of Invasive Plants in Southeastern Forests. Authors: Miller, J., E. Chambliss, and N. Lowenstein. 2010. Pub No.: GTR-SRS-119.

The guide can also be viewed at <http://wiki.bugwood.org/Archive:IPSF>.



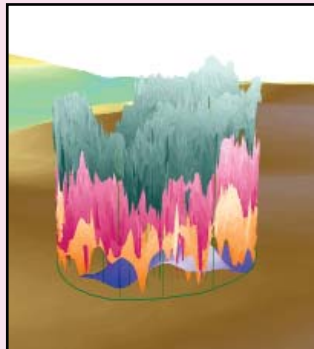
Two new invasive plant guides produced by Department of the Interior agencies.

### 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  
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

## The Chesapeake Watershed CESU

- What is the vegetation structure at PRWI, CATO, HAFE, and Dyke Marsh Wildlife Preserve?
- What are the habitat preferences of birds wintering in the Mid-Atlantic's restored grasslands?
- How can we explore human-induced, off-site threats to resources of the Potomac Gorge?



LIDAR data shows forest structure for a 30-meter wide circular plot in PRWI in this preliminary analysis.

These and other questions have been answered through projects organized, funded, and implemented in part through the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CW CESU).

The CW CESU is a partnership network that helps connect resource managers with research, technical assistance, and education from universities and other federal and non-federal institutions. The CW CESU is a kind of “vir-

tual organization” that allows scientists and researchers from different agencies and institutions to work together in support of federal land management, and environmental and research agencies.

The CW CESU is headquartered in the Appalachian Laboratory of the University of Maryland Center for Environmental Science and is now made up of 21 universities/research institutions and ten federal agencies. To learn more about the CW CESU visit <http://cesu.al.umces.edu/> or call the CW CESU Coordinator for the National Park Service Walter Zachritz at 202-437-0297.

### Recent Additions to the Chesapeake Watershed CESU:

- US Fish and Wildlife Service
- NOAA
- Western Pennsylvania Conservancy (various sites throughout western PA)
- University of Mary Washington (Fredericksburg, VA)
- Christopher Newport University (Newport News, VA)
- Indiana University of Pennsylvania (Indiana, PA)
- University of Virginia (Charlottesville, VA)
- American University (Washington, DC)
- Howard University (Washington, DC)

## Calendar

2010  
DECEMBER

7-9. Scenario Planning for Climate Change Training.  
NCTC. Contact Shelly\_Clubb@nps.gov.

2011  
JANUARY

20. NAT (Natural Resources Advisory Team) Meeting.

ANTI.

MARCH

14-18. George Wright Society Conference: Rethinking Protected Areas in a Changing World. New Orleans, LA. <http://www.georgewright.org/gws2011>.

APRIL

28. NAT (Natural Resources Advisory Team) Meeting.  
CATO.

National Capital Region Network 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  
Water Resources Specialist: Marian Norris

Visit NCRN I&M at:  
<http://science.nature.nps.gov/im/units.ncrn/index.cfm>  
<http://imnetsharepoint/NCRN/default.aspx>

*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 email or at 202-342-1443 x214.