



# NCRN Natural Resource Quarterly

SPRING 2012

## Wildfires in Washington and Beyond

Do you know when wildfire risk is greatest in the Mid-Atlantic? Unlike western states where the risk of fires is highest in the dry summer months, the greatest risk of fires here is actually in spring. Summers in the National Capital Region Network (NCRN) are generally wet.

In the last 90 years, fires have been a rarity in NCRN parks. However, there have been a few fairly recent exceptions. Since 2005 three prescribed burns have been conducted at Antietam. Though primarily focusing on grassland acres, the park's first burn included woodland acres around the Pry House with the intention of reducing hazard fuels, opening up the understory, and restoring the scenic vista. In 2006 an arson fire at Prince William Forest Park burned 318 acres. If not for the removal of dead and standing brush within 50 feet of all roadbeds and park boundary lines two years prior, more acres might have been affected. The brush removal efforts may have been inspired in part by an earlier fire at Prince William's Chopawamsic area in the mid-90s.



NPS Photo

Lindsey Donaldson works at one of the prescribed fires on Antietam's Otto Farm in 2008.

Interpretive signs there now explain differences in the forest between the burned and unburned areas.

But fires were not always so rare. Prior to the 1900's fires were common in eastern deciduous forests. In the NCRN, fires were frequent, but low intensity—primarily affecting the understory (Nowacki & Abrams 2008).

Fire suppression policies initiated in the 1920s greatly reduced fire throughout the eastern US. Open landscapes once maintained by burning grew up into closed-canopy forests, reducing grassland habitat and changing the tree species composition of forests. Shade-tolerant and fire-sensitive plants currently have the advantage over sun-loving, fire-tolerant plants. Fire-dependent species like pitch pine and table mountain pine have dwindled to small populations.

*(Continued page 2)*

## Coming to Your Park this Spring...

	Amphibian Monitoring	Macroinvertebrate Monitoring	Exotic Plant Management	Forest Vegetation Monitoring	Marsh Elevation Monitoring	Water Monitoring
ANTI*						
CATO						
CHOH						
GWMP						
HAFE						
MANA						
MONO						
NACE						
PRWI						
ROCR						
WOTR						

activities scheduled for Mar/Apr/May

### In This Issue:

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(Fire from page 1)

The suppression of fire can have profound impacts on forest vegetation and the animals that depend on it. Acorns are important food for wildlife, birds, and insects. As a result of fire suppression, oaks are being replaced by other trees such as maples, which do not provide wildlife food. Oaks have thick bark, which protects them from low-intensity controlled burns. Maples have thin bark and fire kills them, allowing the oaks to survive, thrive, and continue to feed wildlife.

Under fire suppression regimes, shade-tolerant species including maples, American beech, and mountain laurel have the advantage over oaks, hickories, and pines. Table mountain pines are especially vulnerable. Their cones are coated with resin, which melts with the heat of a fire and allows the cones to open and release their seeds. Fire suppression has dramatically reduced the number of table mountain pines in the region.

### Burn Plans

But while fires can help reset the ecological balances they are a threat to humans and human structures inside and outside of parks. Many NCRN parks are small and are in close proximity to roads and developed areas that could be affected by either fire or smoke. This is the primary reason that most NCRN parks have limited prescribed burning in their fire management plans (also known as burn plans).

*“As an agency, fire can be as effective by its absence as by its application.”*

*-Stephen Pyne, 1982*

Every park is mandated to ensure that wildland fire is fully integrated into land management planning and must have a burn plan. Based on park management goals and the landscape's fire history, these plans lay out how a park will deal with any fires that may occur, and outline any prescribed fire needs.

Catoctin Mountain Park is actively planning to use prescribed fire as a tool to restore the park's fire-dependent table mountain pine communities. Monitoring data will be collected before and after burn treatments to evaluate whether management goals and objectives are being met and whether undesired effects are occurring. Although still in the planning stages, hopefully this effort will provide a template for other parks wanting to reestablish waning communities.

### Contacts and References:

NCR Fire Management Officer, Jeffrey “Zeke” Seabright.  
301-432-6945

NER Mountains to the Sea, Fire Ecologist, Missy Forder.  
540-999-3500 ext. 3323.

Fire Effects Newsletter: [www.nps.gov/fire/fire/fir\\_eco\\_rxeffects.cfm](http://www.nps.gov/fire/fire/fir_eco_rxeffects.cfm)

Nowacki, G.J. and M.D. Abrams. 2008. The Demise of Fire and “Mesophication” of Forests in the Eastern United States. *BioScience*. Vol. 58 No. 2. p 123

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## Ranavirus In Maryland



A healthy box turtle at Catoctin.

Towson University biologists studying box turtles rescued from the construction path of Maryland's Intercounty Connector have uncovered a new outbreak location of a deadly virus threatening amphibian and reptile populations.

Ranavirus threatens box turtles and is also believed to have

killed nearly every tadpole and young salamander in the study area in Montgomery County's North Branch Stream Valley Park since spring 2010. So far, there are no signs of the disease in Rock Creek Park, about 12 miles south of the Montgomery outbreak area.

Ranavirus has previously been found in 2005 in C&O Canal wetlands (along with the amphibian chytrid fungus) and in 2001 in the wetlands of the Patuxent National Wildlife Refuge. **To read more on the topic visit:**

[http://www.washingtonpost.com/local/commuting/2012/02/01/gIQA5O0Z9Q\\_story.html](http://www.washingtonpost.com/local/commuting/2012/02/01/gIQA5O0Z9Q_story.html)

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## NCRN & the Eastern Deciduous Forest

Forests in National Capital Region Network are a part of the greater eastern deciduous forest which stretches from Florida to Maine over 26 states. To understand how NCRN forests fit into this larger picture, a new resource brief on regional forest vegetation looks at two indicators of forest

health: exotic invasive plants and tree seedling regeneration. To view, visit [http://science.nature.nps.gov/im/units/ncrn/products/briefs/NCRN\\_Forest\\_Veg\\_Regional\\_RB\\_2012.pdf](http://science.nature.nps.gov/im/units/ncrn/products/briefs/NCRN_Forest_Veg_Regional_RB_2012.pdf).

# Wildflower Walks Set for Turkey Run and Antietam

NCRN Botanist John Parrish will lead spring wildflower walks for NPS staff this coming April at Turkey Run in George Washington Memorial Parkway and along Antietam Creek at Antietam National Battlefield.

On the walks, John will share his expertise with spring wildflowers as well as trees, ferns, geology, soils, and much more. All are welcome but space is limited. Participants should bring water, lunch, camera, and field guide. Driving directions are available on request. RSVP to John Parrish by email [@nps.gov](mailto:@nps.gov) or at 202-342-1443 x203.

**The Turkey Run Wildflower Walk** will take place Friday, April 13 from 9:15 am to 2:45 pm at Turkey Run Park in the George Washington Memorial Parkway. The walk will focus on the great diversity of wildflowers along trails through upland and bottomland forest next to the Potomac River. Parking is available at Turkey Run parking lot C-1, with overflow parking in lot C-2. See map at: [www.nps.gov/gwmp/turkey-run-park.htm](http://www.nps.gov/gwmp/turkey-run-park.htm) (click on Turkey Run Park Trail Map). From northbound G.W. Parkway take the Turkey Run exit and take first right. Lot C-1 is on your left.

**The Antietam Creek Wildflower Walk** will take place

Friday, April 20 from 9:30 am to 2:30 pm along Antietam Creek at Antietam National Battlefield. The walk will focus on the array of wildflowers, trees, and ferns adapted to sweet, limestone-derived soils along Antietam Creek. Parking is available at the lot for Tour Stop 9. See map at: <http://www.nps.gov/anti/planyourvisit/upload/Hiking%20Guide%202008-letter.pdf> (scroll to page 3).



NPS Photo/Lehman

John Parrish talks about Virginia bluebells at last year's wildflower walk along Bull Run in Manassas National Battlefield Park.

## Is Acid Rain Still Around?

Remember acid rain? Ever wondered if it's still around? The answer is both good and bad.

It is still around, but while acid rain hasn't gone away, in the National Capital Region Network (NCRN) conditions have gotten somewhat better.

First, a quick review. Acid rain (also called wet deposition) is rain that contains nitrogen and sulfur oxides washed out of the air. When these oxides mix with water, they create weak acids that lower the pH of rainwater (and snow, fog, or dew too).

Compared with parks in other I&M networks, emissions, atmospheric deposition, and pollutant exposure in the NCRN are among the highest in the country. Between 2001 and 2009 wet deposition rates in the NCRN for both nitrogen and sulfur exceeded desirable levels that could cause elevated risk of plant health and water quality impacts. Yet while deposition levels are elevated, trends in the NCRN are improving. Since 2001, wet deposition of nitrogen has decreased at seven NCRN parks and wet deposition of sulphur

has decreased at ten NCRN parks.

To learn more, read the new resource brief on wet deposition/acid rain at: [http://science.nature.nps.gov/im/units/ncrn/products/briefs/NCRN\\_Wet\\_Deposition\\_RB.pdf](http://science.nature.nps.gov/im/units/ncrn/products/briefs/NCRN_Wet_Deposition_RB.pdf).



NPS Photo/Lehman

Rain drops may carry dissolved air pollutants that create acid rain.

### Park Acronyms

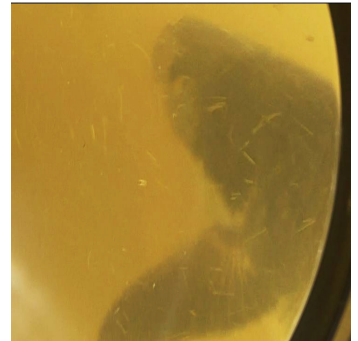
ANTI = Antietam National Battlefield  
CATO = Catoctin Mountain Park  
CHOH = Chesapeake & Ohio Canal National Historical Park  
GWMP = George Washington Memorial Parkway  
HAFE = Harpers Ferry National Historical Park  
MANA = Manassas National Battlefield Park  
MONO = Monocacy National Battlefield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



## Video on Rock Creek Herring Migration

They'll be here sooner than you think! When the water is warm enough, that's when herring from the Atlantic Ocean (mostly alewives and blueback herring) start to make their way up into fresh waters like Rock Creek to spawn. The alewives are usually the first to arrive in March and April. Blueback herring begin to show up in April and continue to swim upstream through May. To see both species, peak migration time is mid-April. Keep your eyes open! An especially good viewing spot is at the Peirce Mill Dam fish ladder on the north side of Tilden Street. While you're there, you'll likely also see some local gizzard shad migrating upstream from their home in the Chesapeake Bay.

Video from last year's herring run in Rock Creek is available online. Watch footage of fish swimming near and in the fish ladder at Peirce Mill Dam along Rock Creek, while listening to narration from a fictional fish radio station: <http://www.youtube.com/watch?v=EMLh-as3oMc>.



NPS Photo

A murky view of what is most likely a gizzard shad swimming upstream at Peirce Mill fish ladder in Rock Creek.

Interested in amphibian and reptile management? NPS employee Terry Riley provides coordination with the group Partners in Amphibian and Reptile Conservation (PARC). They've published a series of Habitat Management Guidelines and as of March 2012, an inventory and monitoring handbook for reptiles and amphibians. Both are available online at <http://parcplace.org/>. Contact Terry by email @nps.gov or by phone at 970-267-2189.



NPS Photo

## Calendar

### MARCH

5. Micro-hymenoptera identification class at GWMP. Contact Erik Oberg by email @nps.gov for details.

21. **Spotlight on National Park Resources.** Women in Military Service for America Memorial (WIMSA) Arlington, VA <http://www.womensmemorial.org/Visit/directions.html>

### APRIL

13. **Wildflower Walk at Turkey Run.** 9:15am – 2:45pm

19. **NAT (Natural Resources Advisory Team) Meeting.** CHOH.

20. **Wildflower Walk at Antietam Creek.** 9:30am – 2:30pm

### MAY

30-31. **(Dates Tentative) Water Sampling Training.** PRWI Cabin Camps. Contact Jim Pieper by email @nps.gov to participate.

### National Capital Region Inventory & Monitoring Network (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:  
Homepage: <http://science.nature.nps.gov/im/units.ncrn/index.cfm>  
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Twitter: <https://twitter.com/#!/NPSNCRN>  
Sharepoint: <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.