



Mid-Atlantic Network

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IN THE SPOTLIGHT: 3-YEAR START-UP REVIEW

The national Inventory and Monitoring Program office requires that all networks undergo a “Start-up Review” within three years of having their monitoring plans accepted. For the Mid-Atlantic Network 2011 marks three years and our review is scheduled for April 5-7. The review is not a technical evaluation; instead it will focus on operational and administrative aspects. The basic question being addressed, “Is the network set up to succeed?” Three years is long enough for the network to appreciate the realities of implementing the program and to determine what level of monitoring is sustainable with current funding, but short enough to make adjustments and improvements before too much has been invested. This is also an opportunity to share successes and lessons learned with meeting participants.

The review panel generally consists of 3-4 people who have experience with long-term monitoring across multiple networks. The panel will include John Karish, Regional I&M Manager, and will be led by Steve Fancy, I&M Division Leader. Other panel members might be associated with a university, the USGS or other federal agency, or with another I&M Network or NPS program. The meeting participants will be primarily NPS staff: network park



Fall foliage. Photo by S. Wakamiya

superintendents, natural resource managers, and network staff.

The review process starts off with an online questionnaire to be completed prior to the meeting. This is an opportunity for anonymous feedback on what works well and suggestions for improvement. The survey results will be discussed at the start of the review, along with an introduction to the national program and an overview of the network and parks. Day 2 will focus on monitoring protocols, data management, and communication and outreach.

The final day will consist of feedback and discussion from the review panel, park managers, and other participants.

Please mark your calendars; this is a great opportunity to learn more about the network progress and provide feedback that will help assure long-term sustainability of our monitoring efforts.

MIDN 3-yr review April 5-7, 2011



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RAIN DROPS KEEP FALLING...

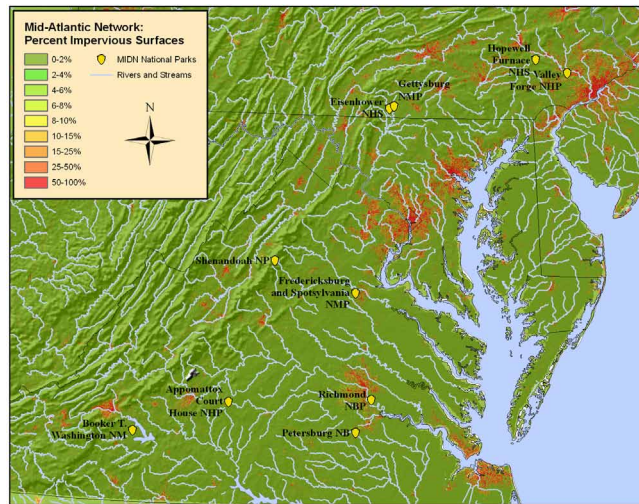
Stormwater runoff is a significant mechanism for delivering pollution loads in freshwater and coastal ecosystems. The Chesapeake Bay Program (www.chesapeakebay.net) estimates that over a sixth of the phosphorus load to the bay is derived from stormwater runoff in urban and suburban areas alone. Excess nutrients in both lotic and coastal ecosystems can lead to wide variation in physical parameters critical to aquatic life, such as depletions of dissolved oxygen. Stormwater pulses can also alter stream morphology through both erosion and sedimentation. Forested habitats act as a buffer to the deleterious aspects of stormwater runoff, in contrast to the impervious surfaces found in urban and suburban areas. Therefore, in forested habitats, precipitation is delivered to streams over longer time periods which reduces the potential of water to deliver sediments as well as other pollutants and actually increases baseflows.

Mid-Atlantic Network staff are currently in the process of pilot-testing stormwater sampling equipment in Fredericksburg and Spotsylvania National Military Park. Stormwater sampling presents unique challenges because of the intermittent and unpredictable nature of precipitation events. To overcome these challenges, the MIDN is using an ISCO automated sampler and

YSI 600LS sonde to continuously monitor stream conditions (level, temperature, and conductivity) and conduct sampling during storm flow events. By integrating the multi-parameter sonde with the automated sampler we are able to trigger sampling events based on stream conditions such as level. Understanding water quality during high flow events is an important component

of the total picture of water quality in streams originating or flowing through Park Service lands.

Contributing watersheds in NPS managed streams within the MIDN represents a wide variety of land use categories, from heavily developed or actively developing to intact forests. Sampling these streams during storm events will reveal additional insights that can improve the management decision-making process for these important resources. MIDN envisions expanding stormwater sampling on a rotating basis to additional network parks.



Impervious cover in the Mid-Atlantic region. Map by S. Wakamiya

A WORD FROM YOUR LOCAL FRIENDLY NETWORK DATA MANAGER

NRINFO REFERENCE APPLICATION ASSISTANCE

Last May, NatureBib and Data Store were replaced by the Reference Application in the Natural Resource Information Portal (NRInfo). Data migrated over from these legacy applications need to be verified and updated before they are released to the public. MIDN will be hiring a data technician to jumpstart this process by 1) obtaining, scanning, and uploading electronic documents for legacy references; 2) verifying record ownership; 3) reviewing and editing record content using regional standards; 4) verifying existing records' relevance to the park to which they are assigned; 5) creating project level references under which to bundle related records; 6) delineating

spatial extent of information in reports; and 7) creating new reference records. The technician will be shared with the Northeast Coastal and Barrier Network (NCBN)

and will be based out of the University of Rhode Island (URI). Work for MIDN is anticipated to start between April and June and will continue for 10 weeks. We need your help: start preparing by compiling reports that need to be scanned or entered in!

NPSpecies

Jennifer Stingelin-Keefer, MIDN's previous NPSpecies Point of Contact (POC), has moved on and passed her duties to the MIDN data manager. Before leaving, Jenn coordinated the certification of all MIDN park species lists with the exception of vascular plants in Appomattox Court House NHP, Booker T. Washington NM, Hopewell Furnace NHS, and Valley Forge NHP. Certified species lists are expected to be available to the public via NRInfo in early 2011.



Data acquisition from ISCO automated sampler. Photo by N. Dammeyer

STATUS OF THE MIDN VITAL SIGN MONITORING

AIR QUALITY

The Air Resources Division has published its 2009 Annual Performance and Progress Report on air quality in the National Parks. Shenandoah was among the parks with improved visibility, nitrates and sulfates. Analysis of trends from 1999-2008 show no change or slight improvement for network parks; however, many metrics are not reported for MIDN parks including atmospheric deposition and ozone. The full report can be accessed at <http://www.nature.nps.gov/air/Pubs/index.cfm>.

AQUATIC MACROINVERTEBRATES

Appalachian Aquatic Consultants will continue monitoring Mid-Atlantic Network parks under a new contract. Currently, they are focusing on updating the Shenandoah NP monitoring protocol that will meet I&M standards. The MIDN protocol will follow shortly in the spring.

BREEDING BIRDS

The second pilot season of the Breeding Bird Monitoring Program was a success with over 35 volunteers participating at 5 parks in the Mid-Atlantic Network including Appomattox Court House NHP, Booker T. Washington NM, Fredericksburg and Spotsylvania NMP, Richmond NBP, and Valley Forge NHP. Data collected from the 2009 and 2010 seasons may be viewed online via the USGS Point Count Database



Snow in Fredericksburg. Photo by K. Callahan

(www.pwrc.usgs.gov). We anticipate expanding the program to Petersburg NB and Gettysburg NMP for the 2011 season.

The first annual report summarizing species composition, density and abundance estimates, and ecological integrity of forests and grasslands using the 2009 bird monitoring data is in its final editing stages and will soon be out for review!

FOREST VEGETATION

The network has now completed the

fourth and final year of plot establishment across the network. One more year of plot establishment is still pending for the NCBN parks included in this protocol. Beginning in 2011, those plots established in 2007 will be revisited, providing the first set of temporal data on changes in forest communities. Shenandoah NP has finalized its draft monitoring protocol which is currently under internal review. External peer-review will be conducted in early winter.

WATER QUALITY AND QUANTITY

Water quality sampling is in full swing and data has begun to flow. With several months of pilot testing under our belts sampling is progressing smoothly as a result of individual parks working closely with the MIDN. This partnership has allowed for a more robust sampling regime thanks to the effort put forth by park personnel.

WEATHER AND CLIMATE

Final annual data summary reports have been completed for all parks for 2007 through 2009. Plans are underway to incorporate new park based stations in the 2010 reports. The weather and climate monitoring protocol is currently under development led by the Eastern Rivers and Mountains Network. The reports can be accessed at <http://science.nature.nps.gov/im/units/midn/ProtocolWeatherandClimate.cfm>



Vegetation monitoring training at Marsh-Bilings-Rockefeller NHP. Photo by J. Comiskey



Spotted salamander (*Ambystoma maculatum*). Photo by J. Mitchell

MARK YOUR CALENDAR!

MIDN 3-YR REVIEW

APRIL 5-7, 2011

SHENANDOAH NP UPDATES ITS PROTOCOLS

Many of the protocols that were developed in the early 1990s for long-term monitoring at Shenandoah NP do not meet current I&M standards and are considered 'legacy protocols'. Over the past two years, MIDN and SHEN staff have been working with various collaborators to produce updated and revised protocols for water quality, fish,

aquatic macroinvertebrates, forest vegetation, and deer. These protocols are currently at various stages of development (see page 3). In addition, a report is in the final stages of review that outlines the conceptual background to monitoring vital signs in the park. The report will be available in early winter.



Front cover photo credits: Red-spotted newt (*Notophthalmus viridescens*) by J. Mitchell; Virginia opossum (*Didelphis virginiana*) by J. Pagels; Back cover: Shenandoah NP. Photo by K. Callahan

NATURAL RESOURCES CONDITION ASSESSMENTS

The Natural Resources Condition Assessment (NRCA) Program has made some significant progress in the Northeast Region since the last newsletter. There are currently 11 parks in the Northeast that have completed a NRCA and have either been posted to the public website (see link below) or are in the final formatting phase

and will be posted in the near future. For those of you curious to learn more about the current ecological conditions of the natural resources of some of our other parks in the U.S. such as: Mount Rushmore National Memorial, Rocky Mountain National Park, and Fort Pulaski National Monument the link below also provides access to those final NRCAs.

We have seven parks currently working on a NRCA including: Appomattox Court House NHP, Sagamore Hill NHS, and Valley Forge NHP here in the Northeast.

The NRCA program is designed to help communicate the state of the science and natural resource conditions within a

Potomac River at Harpers Ferry NHP.
Photo by P. Sharpe



Mid-Atlantic Network
science.nature.nps.gov/im/units/midn/

**Shenandoah National Park
Natural Resource Inventory and
Monitoring**
www.nps.gov/shen/naturescience/

**National Inventory & Monitoring
Program**
science.nature.nps.gov/im

National Park Service
www.nps.gov

Mid-Atlantic I&M Network
Fredericksburg and Spotsylvania NMP
120 Chatham Lane
Fredericksburg, VA 22405

Program Manager/Ecologist:
James Comiskey
jim_comiskey@nps.gov
(540) 654-5328

Data Manager:
Sarah Wakamiya
sarah_wakamiya@nps.gov
(540) 654-5538

Hydrologic Technician:
Nathan Dammeyer
nathan_dammeyer@nps.gov
(202) 380-8370

NRCA Coordinator:
Peter Sharpe
peter_sharpe@nps.gov
(202) 380-8054

park to the natural resource managers and other interested park staff. It's our goal for these reports to be a critical component in Resource Stewardship Strategy (RSS) and General Management planning at the park level. When done well, these documents provide information on critical data gaps, external and internal natural resource threats and stressors, measurable metrics, threshold criteria for those metrics, and current conditions of the selected natural resources of a given park. If you have any specific questions about the program's current progress or schedule for FY 2011 please don't hesitate to contact Peter Sharpe at Peter_Sharpe@nps.gov.

NRCA document link:

http://www.nature.nps.gov/water/NRCondition_Assessment_Program/NRCA_Reports.cfm