



## Mid-Atlantic Network

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### Vegetation Maps mark the completion of MIDN Inventories

The vegetation maps for all Mid-Atlantic Network (MIDN) parks have been finalized marking the completion of inventories for the MIDN except Shenandoah NP.

The vegetation mapping began with The Nature Conservancy, Pennsylvania Support Office mapping the Pennsylvania parks- Gettysburg NMP, Eisenhower NHS, Hopewell Furnace NHS, and Valley Forge NHP. Ecologists from the Virginia Division of Natural Heritage Program completed vegetation mapping for all parks in Virginia. A regional analysis of all quantitative data for Virginia's Piedmont and Coastal Plain provided an accurate evaluation of the vegetation communities in the Mid-Atlantic Network parks.

The NPS and the U.S. Geological Survey (USGS) have put forth standards and protocols for classification and mapping of vegetation communities on NPS lands. The USGS-NPS Vegetation Mapping Program recognizes the United States National Vegetation Classification (USNVC) as the standard vegetation classification to be used in these mapping projects. Vegetation map classes were determined through extensive field reconnaissance, data collection, and analysis and then crosswalked



A rare wetland community identified at Richmond NBP during the mapping. Photo by G. Fleming.

with USNVC in order to provide a regional and global context for each park's vegetation.

Within the Virginia parks a variety of rare vegetation communities were identified. Teams at Richmond NBP and Petersburg NB documented a Coastal Plain / Outer Piedmont Acidic Seepage Swamp, a globally ranked G<sub>3</sub> (vulnerable / rare) community. This wetland community is restricted to a specialized environment and high quality examples are uncommon. The main distribution of this community is in

Virginia, where it is scattered throughout the more dissected, inner Coastal Plain and outer Piedmont. These communities provide breeding habitat for several uncommon dragonflies and damselflies. They are relatively small in size and threatened by beaver activities, agricultural pollutants, hydrologic disturbances, and logging.

Download the vegetation reports and maps at: [science.nature.nps.gov/im/units/midn/Reports.cfm](http://science.nature.nps.gov/im/units/midn/Reports.cfm)



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# What's Flying Above? The MIDN Bird Inventories

The MIDN bird inventories are complete! The inventories began in 1999 with the Pennsylvania parks led by Dr. Yahner, Penn State University. Bird populations were surveyed using point-count, vehicular-road, diurnal raptor and vulture, owl, loggerhead shrike, and riparian-bird surveys. At Eisenhower NHS and Gettysburg NMP they detected several state endangered birds, including loggerhead shrike, short-eared owl, and yellow-crowned night-heron. At Hopewell Furnace NHS, the federally-threatened bald eagle was observed and at Valley Forge NHP, they documented 22 species of special concern, including the



Scarlet tanager photographed during surveys in the Virginia parks. Photo by D. Bradshaw.

state-threatened osprey.

The Virginia parks were more recently inventoried (2002-2003) by Dana Bradshaw, College of William and Mary. At Appomattox Courthouse NHP the inventory yielded 99 species, with 20 species having special status (state species of concern, federal species of conservation concern, or a priority species under national conservation initiatives). Grasslands at Appomattox undergo a diversity of management regimes and yielded a high diversity of species and priority species. At Petersburg NB the inventory detected 129 species, with 29 having special status. At Richmond NBP the inventory yielded 151 species, with 26 species having special status. The forested wetlands were the most species rich habitat, with the highest number of neotropical migrants, and the highest number of priority species. At Fredericksburg and Spotsylvania NMP 163 bird species have been documented. The high diversity is largely due to the varied habitat types located along the transition from the Piedmont to the Coastal Plain.



## CALLING ALL BIRDERS!

The MIDN is seeking highly skilled birders to join our Bird Monitoring Program. As a Bird Monitoring Volunteer you will conduct point-counts at pre-selected sites within MIDN network parks. Pilot surveys will be conducted April 28 at Booker T Washington NM, May 25 at Valley Forge NHP, and a later date at Fredericksburg and Spotsylvania NMP.

For more information visit: <http://science.nature.nps.gov/im/units/midn/BirdVolunteer.cfm> or contact:

Kate Jensen (Valley Forge)  
[kate\\_jensen@nps.gov](mailto:kate_jensen@nps.gov)

Sarah Wakamiya (Fredericksburg)  
[sarah\\_wakamiya@nps.gov](mailto:sarah_wakamiya@nps.gov)

Timbo Sims (Booker T. Washington)  
[timbo\\_sims@nps.gov](mailto:timbo_sims@nps.gov)

## Box turtle monitoring at Gettysburg National Military Park

In 2006 an eastern box turtle (*Terrapene carolina*) monitoring project was initiated at Gettysburg NMP. While box turtles are not a protected species in Pennsylvania, they do deserve attention as populations have declined in the eastern U.S. due to habitat loss, fragmentation, road mortality, agricultural practices, pet collection, and disease.

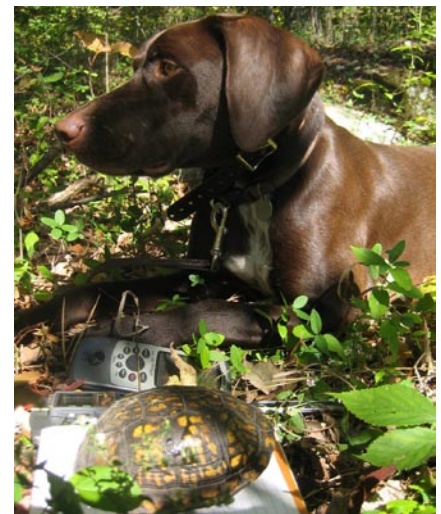


A female box turtle is measured and photographed. Photo by C. Davis

The project uses mark-recapture methods to acquire information about population size, characteristics, and habitat use over time. This project originally began in an effort to temporarily remove box turtles from forested areas being transitioned into grasslands as part of the park's historic landscape rehabilitation.

Box turtles are located by visual searches and with the assistance of a trained turtle dog. The dog has been trained to search for turtles and give the handler a passive alert (i.e., lay down) when a turtle is located. The benefit of using a dog is that more turtles are located and all age classes are detected, even very tiny hatchlings.

When a turtle is found its shell is notched with a unique identification code, physical characteristics are recorded, and its location is mapped with a GPS. Over 200



"George" helps with box turtle monitoring at GETT. Photo by C. Davis

turtles have been identified within a 10 acre radius of the Devil's Den area. For more information contact Carolyn Davis at [carolyn\\_davis@nps.gov](mailto:carolyn_davis@nps.gov)

# Status of the MIDN Vital Sign Monitoring

The network monitoring plan is complete and available from [network home page!](#)

## Forest Vegetation

The forest monitoring crew is gearing up to start its second field season implementing the forest vegetation protocol. This four-person field crew, shared by the Mid-Atlantic and Northeast Temperate networks, travels to National Park units from Maine to Virginia collecting data on the structure and composition of the forest canopy, understory, and herbaceous layers. In 2008 there were 84 plots established in MIDN: Appomattox Courthouse NHP (7), Booker T. Washington NM (2), Fredericksburg Spotsylvania NMP (28), Gettysburg NMP (9), Hopewell Furnace NHS (4), Petersburg NB (13), Richmond NBP (8), and Valley Forge NHP (7). In addition, MIDN included George Washington Birthplace NM and Thomas Stone NHS sampling 2008, and will sample Sagamore Hill NHS in 2009.

## Weather and Climate

Currently, a protocol is being developed in conjunction with Eastern Rivers and Mountains Network. Through Paul Knight, State Climatologist at PSU, a web interface is being developed to view and download weather station data, metadata, data summaries, and climatic trends. In 2009 the web interface should be complete and reports for each park will be available. The 2007 weather and climate data summary reports for network parks are under review. The MIDN hopes to have the 2008 data summaries published later this year.



Tamara Doucette from University of Virginia samples water quality at MIDN parks.

## Water Quality and Quantity

In 2008 a cooperative agreement was established with the University of Virginia to assist with developing and implementing this protocol. During late 2008 and early 2009, UVA staff conducted site establishment and initiated synoptic surveys to evaluate water quality in streams that do not have baseline information and finalize a draft water quality monitoring protocol.

## Aquatic Macroinvertebrates

An aquatic macroinvertebrate monitoring protocol is being developed by Appalachian Aquatic Consultants. In early spring 2009 macroinvertebrate surveys were

conducted at network parks recently established water quality monitoring sites. An analysis of survey samples and preliminary recommendations for sampling sites and methods should be available as part of the monitoring protocol later this year. Field work by Appalachian Aquatic Consultants will be conducted again in spring of 2010. At that time a training session will be held for NPS staff assisting with the monitoring.

## Air Quality

The national Air Resources Division has initiated Air Quality Monitoring annual reports that cover many of the MIDN air quality related vital signs. Summary reports can be downloaded from [www.nature.nps.gov/air/Monitoring/ads/ADSReport.cfm](http://www.nature.nps.gov/air/Monitoring/ads/ADSReport.cfm)

## Breeding Bird Monitoring

In 2009, the MIDN will be pilot testing a volunteer based breeding bird monitoring protocol at Booker T. Washington NM, Fredericksburg and Spotsylvania NMP, and Valley Forge NHP. Nicolas Bircher, Avian Ecologist, is completing his internship at MIDN as part of his Masters in Environmental Sciences at the Swiss Federal Institute of Technology in Zurich, Switzerland. Nicolas has developed a draft monitoring protocol, coordinated with volunteers, established bird monitoring locations, and will be conducting volunteer training. Without his hard work and dedication, bird monitoring would continue to be one of our 'unfunded' vital signs!



Brett Engstrom and Lindsey Sloat carefully identify the herbaceous layer plants during forest vegetation monitoring. Photo by J. Comiskey



Dr. Reese Voshell samples a stream in Fredericksburg and Spotsylvania NMP for macroinvertebrates. Photo by J. Comiskey

# Meet the Network's new data manager!

A warm welcome to Sarah Wakamiya. Sarah joined the MIDN in September of 2008 after finalizing her M.S. work in Zoology at Southern Illinois University-Carbondale. Her thesis work involved habitat and population modeling of peregrine falcons in the lower Midwest.

Sarah is an adventurous spirit (as the photo to the right depicts!) and when she's not diligently working as the MIDN data manager she enjoys running, hiking, bird watching, photography, and art. We are thrilled to have Sarah as part of our team and know the program will greatly benefit from her data management talents and skills.

Sarah can be contacted by email at: [Sarah\\_Wakamiya@nps.gov](mailto:Sarah_Wakamiya@nps.gov) or by phone at: 540-654-5538

And for those of you wondering what we did with our previous data manager, Kris Callahan... she has transitioned into the Eastern Rivers and Mountains Network as their data manager. We all appreciate the great work that Kris did for the MIDN parks.



MIDN Data Manager, Sarah Wakamiya, exploring the Grand Canyon at a recent NPS training

**Mid-Atlantic Network**  
[science.nature.nps.gov/im/units/midn/](http://science.nature.nps.gov/im/units/midn/)

**Shenandoah National Park  
Natural Resource Inventory and  
Monitoring**  
[www.nps.gov/shen/naturescience/](http://www.nps.gov/shen/naturescience/)

**National Inventory & Monitoring  
Program**  
[science.nature.nps.gov/im](http://science.nature.nps.gov/im)

**National Park Service**  
[www.nps.gov](http://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](mailto:jim_comiskey@nps.gov)  
(540) 654-5328

**Data Manager:**  
Sarah Wakamiya  
[sarah\\_wakamiya@nps.gov](mailto:sarah_wakamiya@nps.gov)  
(540) 654-5538

**Science Communicator:**  
Carolyn Davis  
[carolyn\\_davis@nps.gov](mailto:carolyn_davis@nps.gov)



Original artwork by Cheryl Tanner