



Department of Conservation & Recreation  
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

## Virginia Natural Heritage E-News Winter 2013

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[Conserving Virginia's Biodiversity through Inventory, Protection and Stewardship](#) The Virginia Natural Heritage Program focuses on the identification, protection and stewardship of Virginia's natural communities, and rare plant and animal species.

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**From the Director** – It has been some two years since our last E-News, so a few catch up notes. Three new full time staff have joined us. John Hartley, Southwest Operations Steward comes from Virginia State Parks, Mike Lott, Northern Region Steward joins us from Stafford County Planning, and Geoff Austin, most recently with US Geological Survey, is our new Northern Virginia Operations Steward. We have been very privileged to have some 30 student interns



pass through the program in the past two years. This past July we moved to the 16<sup>th</sup> Floor of Main Street Centre with clean space for everyone and a zoology lab and herbarium. 480 natural community and rare species field observations have been made and updated in the Biotics Information Management System. 4,500 written information requests have been answered in the past two years and only six missed the deadline. A completely redesigned Biotics 5 Information Management System has been piloted by Virginia for the NatureServe network, and installed. The on-line mapping tool – Natural Heritage Data Explorer has also been redesigned and upgraded to a state of the art platform. Ten tracts totaling 4,784 acres and one new Natural Area Preserve (Blackwater Sandhills) have been added. Your Natural Area Preserve System now contains 55,363 acres protecting 663 mapped locations of 441 unique rare species and exemplary natural communities. New public access facilities have gone in at Mutton Hunk Fen and Magothy Bay on the Eastern Shore, Crow's Nest, and The Channels. Prescribed burns, invasive species control by hand and by air, longleaf pine plantings, migratory songbird habitat restoration, rare species monitoring, dump and trash cleanups and preserve field days have happened, well every week. Thank you for all your support.



Tom Smith, Natural Heritage Director

**104 acres added to the Mutton Hunk Fen Natural Area Preserve, Accomack County**

– On September 24, the Mutton Hunk Fen Natural Area Preserve was expanded by 104 acres through an open space easement and natural area preserve dedication by DCR. This tract was identified by the DCR Natural Heritage Program as an important addition to the natural area preserve, as it strengthens the protection of the groundwater recharge area that controls the quantity and quality of groundwater that feeds a globally rare sea-level fen on the preserve. The easement will preserve the scenic forested approach to the natural area preserve along Whites Neck Road. With this addition, the Mutton Hunk Fen Natural Area Preserve, originally established in 2005, now includes 515 acres. This project was funded by a grant from the Virginia Coastal Zone Management Program and the 2002 VPBA bond fund.

**Rare Specimen Search at the University of Connecticut and Rutgers University**

–The DCR Natural Heritage Program staff zoologist recently visited the University of Connecticut and Rutgers University insect collections, as well as a very large private Lepidoptera collection in Connecticut to search for specimens of rare Lepidoptera (butterflies, skippers, and moths) and Odonata (dragonflies and damselflies) collected in Virginia. These three collections yielded more than 100 specimens of 25 rare species from Virginia. These records will be entered into the Natural Heritage Program’s Biotics database and also added to the web-based atlas of rare Lepidoptera and Odonata that recently went on-line [See additional story below].

**New Globally Rare Shale Barrens Natural Community And Federally Listed Plant Documented In Bath County**

– DCR Natural Heritage Program ecologists, working with biologists from the George Washington and Jefferson National Forest, documented

new occurrences of a globally rare Shale Ridge Bald / Prairie (G2 S2) natural community and the globally rare Shale Barren Rock Cress (*Boechera serotina*, G2 S2) in Bath County.



*Newly discovered Shale Ridge Bald / Prairie in Bath County*

The endangered (federal) threatened (state) plant is scattered in the prairie-like, grassland community that also contains other endemic shale barren plants such as Shale Barren Wild Buckwheat (*Eriogonum allenii*) and Kate’s Mountain Clover (*Trifolium virginicum*). The site is located on the George Washington National Forest Warm Springs Ranger District just outside the boundary of Douthat State Park.

**Rare Plant and Significant Natural Community Discovered in Essex County**

– DCR Natural Heritage Program staff discovered a new population of the threatened (federal) vascular plant species sensitive joint vetch (*Aeschynomene virginica* – G2/S2/LT/LT)



and a significant example of Tidal Oligohaline Marsh during a site visit along the Rappahannock River in Essex County.



The marshes on this property cover approximately 600 acres, with only two small areas known to harbor sensitive joint vetch. More extensive survey of this very large area might identify additional individual examples of this rare plant.

**Study begins on Mark-Recapture of Freshwater Mussel Population** – DCR Natural Heritage Program zoology staff worked jointly with Virginia Department of Game and Inland Fisheries (VDGIF) staff to begin a mark-recapture study of a freshwater mussel population that includes the endangered (federal and state) James Spineymussel (JSM, *Pleurobema collina*, G1, S1) at a river in Buckingham County. Natural Heritage Program staff first discovered this population in 2011. Natural Heritage Program staff also assisted VDGIF in conducting quarterly mark-recapture surveys of JSM populations in Craig and Botetourt Counties. The data from these surveys are providing valuable life history information about the JSM and will help in conservation efforts.

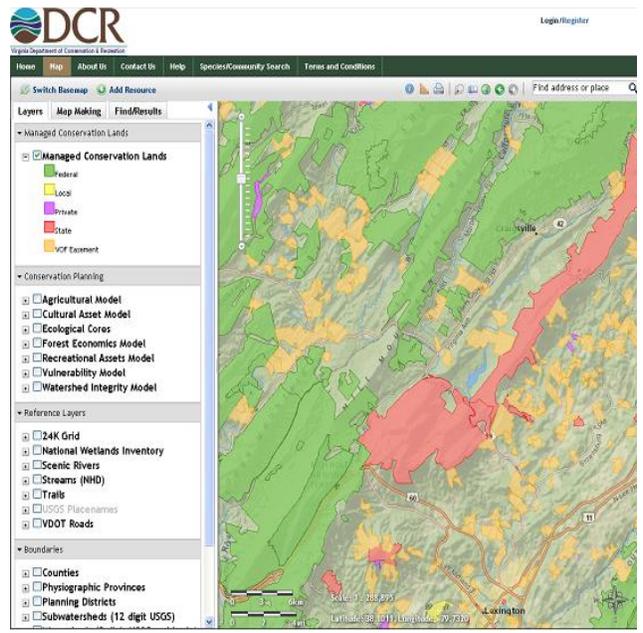
**Rare Plants Discovered in Giles County** – DCR Natural Heritage Program staff discovered several state-rare plant species during a site visit centered on Little Stony

Creek in Giles County. In the upland hardwood forests, Bentley's coralroot (*Corallorhiza bentleyi* – G1G2/S1/nf/LE) and shinleaf (*Pyrola elliptica* – G5/S2) were found in small populations. The wet meadow-like habitats adjacent to Little Stony Creek support populations of purple fringeless orchid (*Platanthera peramoena* – G5/S2), Fraser's Marsh St. John's Wort (*Hypericum fraseri* – G5/S2), narrow-panicked rush (*Juncus brevicaudatus* – G5/S2), nannyberry (*Viburnum lentago* – G5/S1), and sweet azalea (*Rhododendron arborescens* – G4G5/S2). Additionally, a population of what may be narrow-leaf burreed (*Sparganium emersum* – GNR/S1) is present in the bed of Little Stony Creek.

**White Nose Syndrome in Northeastern Long-eared Bats** – DCR Natural Heritage Program staff scientists worked collaboratively with the Virginia Department of Game and Inland Fisheries and Radford University to perform summer bat surveys targeted at assessing the population status of the Northern long-eared bat (*Myotis septentrionalis*), a species suffering high mortality (>90%) in Northeastern states due to White Nose Syndrome, a fungal disease affecting cave-hibernating bats. With the exception of Cumberland Gap National Historic Park, where WNS has only just been confirmed (February, 2013), *M. septentrionalis* is all but absent from the landscape. The only species being captured in pre-WNS numbers are non-cave (tree) bats and big brown bats. Investigation of Little brown bat (*Myotis lucifugus*) maternity sites reveals population declines of >90%, consistent with those observed in cave hibernacula in winter.

**Virginia's All New Natural Heritage Data Explorer** – The DCR Natural Heritage Program has revised the three primary web-based access points for data and information for land conservation and environmental

review. The *publicly accessible* Land Conservation Data Explorer and county/watershed natural heritage resources search tool, and the *subscription-based* Natural Heritage Data Explorer (NHDE) have been updated, refined and combined at [www.vanhde.org](http://www.vanhde.org).



Anyone can freely access 20 interactive map layers that summarize the status of Virginia's Conservation Lands; display various conservation values of lands; and provide reference and boundary layers, such as roads, streams, planning districts, localities and watershed boundaries. Anyone can also import their own GIS data into the NHDE map viewer; query back-end map layer information; and use map editing tools to make, save and share custom maps, all with any of 8 basemap options. NHDE *subscribers* can access additional sensitive data layers and custom functionality to expedite site-specific environmental review with the DCR Natural Heritage Program. Since March 1<sup>st</sup>, the Program has trained over 130 consultants, agency staff, and other conservation partners via 8 in-person NHDE training sessions throughout the state. Currently, 103 NHDE subscriptions have

been activated, 40 of which are local government and planning districts. Also, Virginia's new NHDE conservation tool has already been used as a model for developing similar applications for several other state and local government agencies.

### **Web Atlas of Rare Butterflies, Skippers, Moths, Dragonflies and Damselflies Launched**

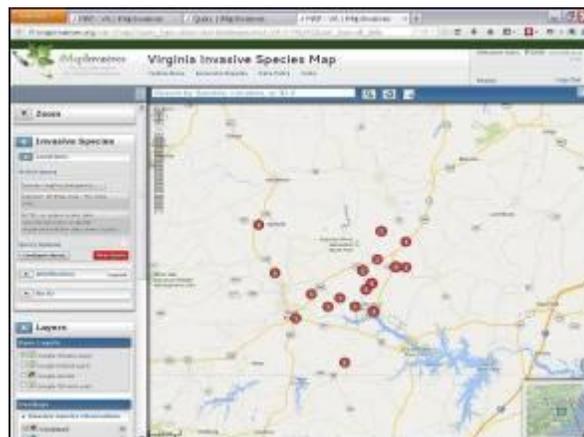
– On June 1, 2013, the DCR Natural Heritage Program launched a Web Atlas of Rare Butterflies, Skippers, Moths, Dragonflies and Damselflies. This web atlas provides a wealth of information on 193 rare species in these insect groups, all made possible by hundreds of records from around the state. These records were amassed over two years from the Natural Heritage Program database, the field work of Natural Heritage Program inventory biologists and cooperators, and in many cases literature sources and museum specimens. The public can use this web atlas to: 1) enter locality name and receive a summary of all rare species in these groups by locality in Virginia; 2) enter a species or common name, and get summary information on its physical appearance, its food or host plants, its habitat requirements, conservation status; 3) view a current county presence map for Virginia; and more. This information, including photos, is provided in printable factsheets for every rare species in the Atlas. This Atlas was developed by the DCR Natural Heritage Program and the DCR Public Communications Office, with funding and initial project vision provided by the Virginia Department of Game and Inland Fisheries, through a U.S. Fish and Wildlife Service State Wildlife Grant. Check it out at [www.vararespecies.org](http://www.vararespecies.org).

### **Invasive Species Workshops for Three Chapters of Virginia Master Naturalists**

– DCR Natural Heritage Program staff have recently conducted workshops on early detection and reporting of invasive species in

Virginia for three Virginia Master Naturalists chapters: the Blue Ridge and Foothills Chapter, the James River Chapter, and the Eastern Shore Chapter. Over 60 Master Naturalists got an overview of invasive species issues, and they learned how to register for and use iMapInvasives.org. Particular emphasis was given to identifying five invasive plant species: wavyleaf basketgrass (*Oplismenus hirtellus* ssp. *undulatifolius*), cogon grass (*Imperata cylindrica*) and giant hogweed (*Heracleum mantegazzianum*), beach vitex (*Vitex rotundifolia*), and giant salvinia (*Salvinia molesta*). [See additional story below].

site is free. To learn more, go to: [imapinvasives.org](http://imapinvasives.org)



*Blue Ridge and Foothills Chapter of Virginia Master Naturalists*

**Virginia iMapInvasives.org** – Virginia iMapInvasives.org, the online invasive species mapping and data management tool, now includes Department of Game and Inland Fisheries data for feral hogs and Department of Forestry data for emerald ash borer. DCR Natural Heritage Program Stewardship staff sought data from DGIF and the Department of Forestry. Program staff then worked with iMapInvasives staff in New York and Florida to get the data prepared for upload. The general public can view the data at county level. Registered users can see point data. The species observations represented by these data are confirmed by experts. Registration at the

**Phragmites Tissue Sampling** – On June 11 and 12, the DCR Natural Heritage Program Stewardship Biologist led a team to collect Phragmites tissue samples for a genetics study being conducted by University of Richmond researcher, Dr. Carrie Wu.



*Dr. Carrie Wu (back) and student research assistant Laura Murray*

The team visited known Phragmites patches in marshes on the Pamunkey and the Mattaponi Rivers. The study seeks to distinguish populations of native Phragmites (*Phragmites australis* ssp. *americanus*) from the invasive strain (*Phragmites australis* ssp. *australis*). Dr. Wu is also looking for evidence that the two species are hybridizing. A hybrid variety of Phragmites could become

even more invasive than the introduced species already has become. The research is being funded by the University of Richmond with logistical assistance from the DCR Natural Heritage Program.

**Phragmites Treated at Dameron Marsh & Hughlett Point Natural Area Preserves** –

On October 15, the DCR Natural Heritage Program’s Chesapeake Bay Region Steward supervised an operation to reduce the invasive plant Phragmites at two state natural area preserves in Northumberland County. Just at the end of the seasonal control window, Mother Nature finally provided a small break in the wind and rain, allowing the contractor to complete spray treatments by helicopter to control Phragmites at Dameron Marsh and Hughlett Point preserves. The spray operation early Tuesday morning was completed before 9:30 a.m.



**Japanese stiltgrass treatment at Crow’s Nest Natural Area Preserve** –

On July 25, 2013, an Exotic Plant Management Team (EPMT) from the National Park Service’s National Capital Regional Office treated approximately 6,000 linear feet of Japanese stiltgrass (*Microstegium vimineum*) along a main road at Crow’s Nest Natural Area Preserve. In addition, the team also treated beefsteak plant (*Perilla frutescens*). DCR Natural Heritage Program staff worked with

staff from NPS to develop an agreement that would allow the EPMT to work at Crow’s Nest (and perhaps other Preserves) in the future. The team completed its 2013 work at Crow’s Nest in August.



*EPMT treating stiltgrass at Crow’s Nest Natural Area Preserve.*

**Eagle Scout Project at Crow’s Nest** –

On August 17, 2013, scouts and parents with troop 1717, DCR Natural Heritage Program staff and volunteers with the Central Rappahannock Master Naturalist chapter assisted Kaleb Neubarth with his Eagle Scout Project at Crow’s Nest Natural Area Preserve in Stafford County. Kaleb’s project involved the construction and installation of two benches and approximately 24-feet of boardwalk.



In addition, approximately 2,200 feet of new trail were completed to an overlook of the tidal freshwater marsh along Accokeek Creek. Approximately 17 people assisted in the completion of the project.



**Installation of John Smith Water Trail Kiosk at Crow's Nest Natural Area Preserve** May 28 through May 31, 2013, DCR Natural Heritage Program staff installed a Captain John Smith Chesapeake National Historic Trail kiosk at the Brooke Road parking lot at Crow's Nest Natural Area Preserve in Stafford County. The project represented a collaborative effort between DCR and the Chesapeake Bay Office of the National Park Service. The three panels on the kiosk provide an introduction to the trail as well as information on the voyages of John Smith within the Chesapeake Bay region. Within a year, visitors will be able to access the trail from the canoe/kayak launch to be constructed at this location.



**Recently completed kiosk at the Brooke Road access point at Crow's Nest Natural Area Preserve.**

**Annual Interagency Fire Refresher** – On Thursday October 17 forty-four staff from the Department of Conservation and Recreation, the Department of Game & Inland Fisheries, The Nature Conservancy and the U.S. Fish and Wildlife Service participated in a mandatory annual fire refresher as part of DCR's prescribed fire program. Staff took the Work Capacity Test (3 mile hike with 45lb pack in under 45 minutes) in the morning, then at the Pocahontas State Park Algonquian Ecology Dining Hall reviewed 2013 DCR, TNC and USF&WS prescribed burns and discussed details of the tragic Yarnell Hill Fire where 19 Granite Mountain Hotshot crew members lost their lives. In the afternoon staff rotated through four field stations: Fire Engines, Portable Pumps & UTVs, Fire Line Technology, and Fire Shelters & Fire Line First Aid.

**Cub Scout visit to Crow's Nest** – On July 27, 2013, DCR Natural Heritage Program staff led a field trip for Stafford County Cub Scout troop 1425 to Crow's Nest Natural Area Preserve. The field trip started at the Brooke Road parking lot, where the scouts visited the site of the future canoe launch. After a brief look over the tidal freshwater marsh along Accokeek Creek, the group carpooled into the main portion of the Preserve, where everyone participated in a hike on the Accokeek Creek Loop Trail.



Along the trail, scouts were introduced to a number of topics, including trail construction and maintenance, invasive species management and the importance of the intact soils at Crow's Nest to the health and productivity of the forest.



Including the 18 scouts, their parents, and other volunteers, approximately 60 people attended the field trip.

**Ogdens Cave Scout Tour** – On August 12, 2013, approximately 25 Cub Scouts and Boy Scouts went on an above and below ground tour of Ogdens Cave Natural Area Preserve in Frederick County. Mountain Region and Karst Stewardship staff, along with three members of the Ogdens Cave Volunteer Stewardship Committee, introduced the scouts to grassland restoration and karst ecology and geology. Ogdens Cave Natural Area Preserve contains five globally rare cave species. Above ground the watershed of the cave is being restored to tallgrass prairie both to protect the water quality of the karst ecosystem below and to enhance biodiversity at higher tropic levels.



*Bob McDonnell, Governor*

*Doug Domenech,  
Secretary of Natural Resources*

*David A. Johnson, Director  
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**Celebrating 27 Years of Conserving Virginia's  
Natural Communities and Rare Species**

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Twice Selected as the  
Outstanding Natural Heritage Program  
in the Western Hemisphere

December 2013