



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Conserving Virginia's Biodiversity through Inventory,
Protection and Stewardship



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The Virginia Natural Heritage Program was established in 1986 to protect the state's diversity of life. The program focuses on the identification, protection and stewardship of Virginia's natural communities, and rare plant and animal species.

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50TH STATE NATURAL AREA PRESERVE

2007 saw the Department of Conservation and Recreation's Natural Heritage Program purchase a 243.6-acre property supporting two globally rare species. The property is owned and managed by DCR as the Chestnut Creek Wetland Natural Area Preserve, Floyd County. The property was purchased using Natural Area and State Park 2002 general obligation bond funds and a US Fish & Wildlife Service endangered species recovery grant that was awarded to DCR. Since the 50th, the Natural Heritage Program has added Camp Branch Wetlands, Floyd County and Ogdens Cave, Frederick County. The natural

area preserve system now totals 42,541 acres protecting 527 mapped locations of 316 different rare species and natural communities.

TWO OF VA'S RAREST BUTTERFLIES

A status assessment of the Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*, G5T1T2, S1 state threatened) was conducted in 2007. Partial funding was provided through Section 6 funds from the US Fish and Wildlife Service. In summary, no new locations for this skipper were found, and of three known locations resurveyed, only one continues to support a population. There are only two known locations in Virginia verified since 2001, one on US Forest Service property, and the second on private property. This species continues to be one of the rarest butterflies in Virginia despite concerted survey efforts over the years.



Natural Heritage zoologists surveyed marsh habitat at Chippokes State Park and for the first time located 11 Rare Skippers (*Problema bulenta*, G2G3 S1). All were observed nectaring on swamp milkweed which seems to be a favorite nectar source for this species. Wild rice and giant cordgrass, both thought to be a host plant for the caterpillars of this species, were observed throughout the marshes. This is one of only four known extant populations in Virginia.



UPDATE ON THREE OF VIRGINIA'S RAREST PLANTS

Surveys for three rare plant species, Bentley's coralroot (G1G2/S1/-/LE), Juniper sedge (G3/S1/-/LE) and Harperella (G2/S1/LE/LE), funded in part by the US Fish and Wildlife Service under Section 6 of the Endangered Species Act of 1973 were conducted in 2007. Surveys for Bentley's coralroot (*Corallorhiza bentleyi*), an orchid known only from Virginia and West Virginia, were conducted in 2007 in Bath, Highland, and Craig counties, but were unsuccessful in finding any new locations. The drought experienced by this section of Virginia may have affected germination and emergence of plants this year as plant numbers were reported to be reduced in the known occurrences.



Juniper sedge is a recently described sedge found in openings and woodlands underlain by limestone or dolomite in only three US states, Ohio, Kentucky, and Virginia, and in Ontario, Canada. In Virginia, only three locations are known from the western counties of Montgomery and Botetourt and the City of Radford. Surveys conducted on slopes underlain by Elbrook Formation dolomite in Montgomery County in 2007 yielded four new small colonies, additions to an existing mapped location. The survey also resulted in the discovery of one new mapped location of the federally listed Endangered and state listed Threatened plant smooth coneflower (*Echinacea laevigata*) (G2/S2/LE/LT) and new colonies in existing mapped locations of smooth coneflower and the Virginia endemic plant Addison's leatherflower (*Clematis addisonii*) (G2/S2).

Harperella (*Ptilimnium nodosum*) is a rare aquatic herb found in large streams and rivers. The only known Virginia population was located in Aquia Creek (Stafford County) in 2002. Surveys in 2007 for harperella took place on portions of Back Creek (Bath County), the

Jackson River (Bath County), the Cowpasture River (Bath County), North Fork Moormans River (Albemarle County), and Cub Run (Fairfax County). No new populations of harperella were located during these surveys.

THREATS TO SHENANDOAH NATIONAL PARK ROCK OUTCROPS

Only 75 miles away from the commotion of city life, Shenandoah National Park's mountains and unique biodiversity have always provided a true escape to the wilderness. The park, which encompasses part of the Blue Ridge Mountains, is long and narrow, with the broad Shenandoah Valley to the west and the rolling hills of Virginia's Piedmont to the east. For nearly seven decades the park has been a popular spot receiving on average more than a million visitors per year. Exposed rock



outcroppings in the Park are noteworthy for their size, number, geological diversity, and plant and animal life. The Virginia Natural Heritage Program together with the National Park Service recently published a report that highlights major threats to the biodiversity of Shenandoah National Park's rock outcrops with recommendations on how to most effectively respond to these threats.

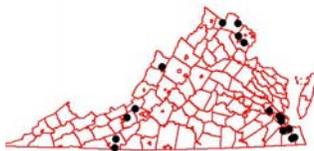
A total of 50 rock outcrop sites were mapped and assessed for threats. The study identified 54 significant natural communities, 10 rare animals and 76 rare plants of which 45 occurrences were previously unknown. Invasive species and human impacts such as hiker trampling, camping and rock climbing were identified as the primary threats to the park's natural resources.

To better conserve the Park's rich outcrop vegetation and biodiversity while still securing a rich experience for visitors, the report offers a suite of recommendations that includes limiting

access to 25 rock outcrop sites, closing or re-routing some trails, better managing climbing and camping activities, and managing invasive species at 18 sites.

LOSING OUR NATURAL HERITAGE

Natural Heritage scientists recently analyzed land-use changes at heavily-developed conservation sites previously confirmed to support rare plant, rare animal and/or significant natural communities. A total of 82 sites were examined using 2002 aerial photographs. Staff estimated that 20 of the Natural Heritage Resource mapped locations within these 18 sites had been eliminated. With a few exceptions, these 18 sites containing 20 mapped locations were lost because their habitat had been grossly altered by housing or commercial development between when the mapped locations were last observed (generally between 1980 and 1995) and 2002 when the aerial photographs were taken. As a result of this, 18 of the 82 (22%) conservation sites were lost. The aerial photos used are six years old. Growth has exploded during this period and its unknown what has been lost since 2002. This map shows where the sites have been eliminated.



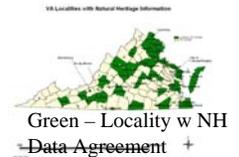
LandScope AMERICA

The Conservation Guide to America's Natural Places was launched, in preview mode, on October 1, 2007, by NatureServe and the National Geographic Society. LandScope America is a new online resource for the land-protection community and the public. Planned for release in fall 2008, LandScope America will bring together maps, data, photography and information about our environment from a variety of sources and present them in dynamic and accessible formats. The Virginia Natural Heritage Program was instrumental in the award

of the project by the West Hill Foundation to NatureServe and the National Geographic Society, and VA is one of five state Natural Heritage Programs to be featured on the initial launch of the site. Under this partnership, Virginia Natural Heritage is contributing to website conceptual development, technical content, editorial content and will be featured with a specific website (LandScope Virginia) upon the official launch in October 2008. Virginia Natural Heritage will continue to collaborate with NatureServe and the National Geographic Society to assure that this site adequately features Virginia's commitment to land conservation. Check out VA's involvement and the development of this multimedia tool at www.landscape.org.

NH LOCALITY ASSISTANCE PROGRAM

DCR's Natural Heritage Locality Assistance Program assists local conservation partners in fully utilizing natural heritage resource information as well as NH consultative services to ensure protection of natural heritage resources. During 2007 the locality liaisons provided assistance to over thirty localities and conservation partners including Augusta County, Southampton County, Prince George County, Hanover County, Williamsburg Land Conservancy, and Northern Virginia Regional Park Authority. Kristal McKelvey kristal.mckelvey@dcr.virginia.gov the new coastal zone locality liaison was recently hired and looks forward to working with the various conservation partners in the coastal zone in the coming year. The DEQ Coastal Zone Management Program provides significant funding for this effort in VA's coastal zone. There is also a new locality liaison web page @ www.dcr.virginia.gov/natural_heritage/localityliaison.shtml



NATURAL HERITAGE PROJECT REVIEW IN 2007

In 2007, Natural Heritage staff responded to 2,443 official requests for project review

information. 1,191 request came for state agencies, 786 from consulting firms, 178 from federal agencies, 120 from local governments and the remainder came from land trusts and private citizens.

SCOTT COUNTY – KARST CENTRAL

Representatives of the Virginia Cave Board and DCR Natural Heritage and State Park staff met with Scott County officials including County Administrator Mr. Rufus Hood to discuss the significant karst resources of Scott County. Scott Co contains 392 of VA's 4400 known caves, 2 of VA's 7 significant karst areas, and 21 globally rare karst species 9 of which are known only from Scott County. Mr. Hood and others responded very positively to the information and expressed strong interest in protecting the county's significant karst resources. Following the Scott County meeting, a two day Cave Board meeting and planning session was held at Natural Tunnel State Park – Cove Ridge Center with local citizens and representatives of American Cave Conservation Association, Appalachian Cave Conservancy, Cave Conservancy of the Virginias, Cave Conservancy Foundation, Virginia Region of the National Speleological Society, Virginia Speleological Survey, Cumberland Gap National Historic Park, US Fish & Wildlife Service, US Forest Service, VA Dept of Game and Inland Fisheries.

NEW TRAIL AT BUFFALO MOUNTAIN

A new hiking trail was recently completed at the Buffalo Mountain Natural Area Preserve, Floyd County. The previous trail was an eroding, steep old firetower access road that presented an on-going maintenance problem. The new trail was designed by DCR staff and constructed with funding provided by a



Virginia Recreational Trail Program grant. Trail Dynamics, a contracted trail construction company based in North Carolina completed the work. The new trail is located on the south side of the mountain and provides a greatly-improved visitor experience. In addition, the preserve parking area has been enlarged to accommodate 10-15 cars. Thanks also go to the outstanding members of the Buffalo Mountain Stewardship Committee. Visitor comments on the trail log indicate widespread approval of the project www.west-point.org/family/buffalo/publications/LogBook2.pdf

VIRGINIA MASTER NATURALIST

The Natural Heritage Program continues to provide strong support to the growing Master Naturalist Program. Staff serve on the Executive and Steering Committees and are Advisors to three chapters, and many staff serve as course instructors, devoting over 800 hours in the past ten months to the effort. Newly certified Master Naturalists are required to provide 40 hours of community service each year in order to retain their certification. It is anticipated that certified Master Naturalists will provide DCR natural area management and inventory staff with an on-going volunteer force to assist with various aspects of natural areas inventory, monitoring and management. www.virginiamasternaturalist.org

NATURAL AREA PRESERVE CLEANUPS

Hauling trash off of State Natural Area Preserves could be a full time job for the thinly spread NAP staff. A recent day at the now closed and former "Flagship" public access area at the North Landing River NAP removed a tar trailer being used to burn trash, a car engine, front end and transmission, 500 lbs of trash which included 10 fresh spent 9mm shell casings, 3 spent CO2 air rifle/pistol cartridges, and piles of beer and wine bottles. The trash continues to pour into this closed natural area preserve public access area, in desperate need of a DCR Natural Area Operations Steward.

On the Eastern Shore Dr. Ed Crawford from VCU Dept of Biology and ten VCU students collected 41 bag of trash, weighing an estimated 800 lbs at the Wreck Island Natural Area Preserve as part of International Coastal Cleanup. (One TV, part of a drain field, many glass bottles, plenty of plastic). All the trash was bagged, loaded on the ATV and then loaded in the boats for a trip to the dump.



On the other side of the state, Franklin County inmates conducted cleanup work at Grassy Hill Natural Area Preserve. DCR's Mountain Region Natural Area Operations Steward arranged for eight inmates to clean up multiple dump sites. A dump truck was provided by the county to haul away materials to the local landfill. At least eight truckloads of debris were hauled from the preserve, consisting of tires, household refuse, furniture and large appliances.

YOUTH CONSERVATION CORPS HITS THE EASTERN SHORE

An outstanding Youth Conservation Corps crew plus one hardworking Eastern Shore volunteer worked with Dot Field and Richard Ayers to accomplish an impressive list of much needed projects on four Natural Area Preserves. Thanks also go to Kiptopeke State Park for hosting the YCC crew and assisting with logistics! The projects completed over the five-day period of working at Savage Neck Dunes, Parkers Marsh, William B. Trower Bayshore, and Magothy Bay Natural Area Preserves included building and installing an entrance kiosk, building and marking a mile of new trail; built and post beach access points with entry signs and Tiger Beetle signs (required hauling all materials about 3 miles up the beach); reposting



boundaries; trash pick-up; and replacing culvert pipes along dike road to reopen road from both ends.

PHRAGMITES MAPPING & CONTROL

Phragmites is a tall, perennial wetland grass that is found throughout the U.S. The non-native variety introduced from Europe grows in dense single species stands, and displaces native wetland plants. Thanks to great support from DEQ's Coastal Zone Management Program and the US Fish & Wildlife Service, staff from DCR's Natural Heritage Program have completed aerial mapping of this invasive wetland grass along the tidal Rappahannock River and its tributaries, and the Eastern Shore. The project used a helicopter, trained observers and a geographic positioning system device to map Phragmites patches as small as 1/16th acre. Mapping was completed for all reaches and tributaries of the river between Fredericksburg and Windmill Point. A total of 2,295 patches of Phragmites were mapped covering 982 acres. Most Phragmites on the river is located in the vicinity of Tappahannock. With mapping completed, DCR and USFWS are developing an outreach strategy to make the public more aware of the problem, and the USF&WS is using the data to target control efforts in and around the refuge. DCR's new web-based Mapping Application provides landowners a means to assess Phragmites on their own land to make plans for its control.



Mapping was also completed on Virginia's Eastern Shore, both seaside and bayside, and documented more than 3,000 acres.

NHP staff had a record year for controlling Phragmites in 2007. In September, 300 acres of Phragmites was treated on the Eastern Shore and 28 acres was treated on natural area preserves in the Chesapeake Bay, and Southeast Regions. To learn more visit:

www.dcr.virginia.gov/natural_heritage/vaisc/phragapp.htm

LONGLEAF PINE RESTORATION BEGINS

Another major step toward restoring longleaf pine communities on Natural Area Preserves in southeast Virginia was taken in early 2008 at Chub Sandhill NAP, Sussex County. NH staff and a contracted crew planted longleaf seedlings on an old farm field covering 80 acres at this preserve.

Seedlings were grown from local Virginia



source seeds harvested by DCR and Dept of Forestry staff in fall 2006. Over 40,000 containerized seedlings were planted in this initial phase of what is planned to be a much larger effort to restore up to 3,000 acres of longleaf pine on southeast Virginia NAPs by 2020.

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Outstanding Natural Heritage Program
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