

Virginia Department of Conservation & Recreation



## Virginia Natural Heritage E-News Spring 2009

### Conserving Virginia's Biodiversity through Inventory, Protection and Stewardship

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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**THE NATURAL HERITAGE ENGINE** The fuel efficient, low emission, highly productive engine that drives the Natural Heritage Program's efforts is the Natural Heritage Information Management System. The data managed by this system is the key to protecting Virginia's biodiversity, by protecting good examples of all our natural communities thus helping to keep our common species and systems secure, and

protecting rare plant and animal species. This common system shared throughout the NatureServe natural heritage network is the most comprehensive source of information on Virginia and the western hemisphere's biological diversity. Constantly being updated with new information, the Virginia system now contains information on:

Animal Mapped Locations (EOs)	3,457
Plant Mapped Locations (EOs)	3,588
Community Mapped Locations (EOs)	1,194
Conservation Sites	2,188
Managed Areas	3,690
VOF Easements	2,452
References	37,850

### **ONTARIO ASTER DISCOVERED IN VIRGINIA**

Recent exploration of lands along the Clinch River in Scott County, Virginia by Natural Heritage Botanist Johnny Townsend uncovered a population of *Symphyotrichum ontarionis*, otherwise known as "Ontario Aster" or "Bottomland Aster". This white-flowered species was previously unknown in Virginia but is distributed widely, being known from Quebec to Georgia and westward to Texas and the northern plains. Despite this large range, Ontario Aster is almost entirely absent from eastern seaboard states. This species is usually found in streamside or bottomland habitats and is often found in association with limestone. There are several confusing species of white asters in the mountains of Virginia, making additional



populations of Ontario aster a challenge to locate. Since suitable habitat seems abundant, it is not known whether Ontario aster is truly rare in the state or simply overlooked.

#### **STATE-HISTORIC PLANT SPECIES LAST SEEN IN 1941, REDISCOVERED**

Harvey's Beaksedge (*Rhynchospora harveyi*) (G4/S1) has been rediscovered by Natural Heritage Botanist Johnny Townsend, over 65 years after it was last seen in the state. This rare sedge was last collected by Harvard botanist M.L. Fernald in Sussex County in 1941. The species was rediscovered at Difficult Creek Natural Area Preserve in Halifax County, a Piedmont property known for its concentration of globally and regionally rare species of plants. Harvey's Beaksedge is known from fire-maintained savannas of the coastal plain in the southeastern United States but is also known to inhabit glade-like habitats of the interior. Prescribed burns carried out at Difficult Creek have no doubt benefited this species of open habitats.

#### **PIRATEBUSH FOUND IN BOTETOURT COUNTY**

A new population of the rare shrub piratebush (*Buckleya distichophylla*) (G2/S2) was found recently in Botetourt County on Sheets Mountain by Natural Heritage Field Botanist,



Allen Belden. This species is rare not only in Virginia but throughout its global range, which consists only of portions of the mountains of Virginia, North Carolina, and Tennessee. The new

population is estimated at over 1,000 individuals, making it one of the largest known anywhere and perhaps second only to the population on DCR's Poor Mountain Natural Area Preserve in Roanoke County. The habitat for the rare shrub on Sheets Mountain is a narrow ridgecrest capped by sandstone. Piratebush is a hemiparasite known to utilize a variety of conifers as host species. On Sheets Mountain the host species is Table Mountain pine.

#### **2008 SURVEYS FOR THREE FEDERAL/STATE-LISTED PLANTS**

Natural Heritage field botanists conducted surveys for three of Virginia's rarest plant species Bentley's coralroot (*Corallorhiza bentleyi*) (G1G2/S1/NL/LE), juniper sedge (*Carex juniperorum*) (G3/S1/NL/LE), and Virginia sneezeweed (*Helenium virginicum*) (G3/S2/LT/LE). The surveys for Bentley's coralroot and juniper sedge focused on finding new populations, while the surveys for Virginia sneezeweed focused on determining the status of known populations, a continuation of work begun in 2006.

Bentley's coralroot is a state-listed Endangered orchid known only from two counties in West Virginia and three counties in Virginia: Giles, Alleghany, and Bath. In 2008, surveys were conducted in Craig, Highland, and Alleghany counties. Despite the presence of appropriate habitat, no new locations were found.

Juniper sedge is a recently-described sedge found in openings and woodlands underlain by limestone or dolomite in only three U.S. states, Ohio, Kentucky, and Virginia, and in Ontario, Canada. In Virginia only three occurrences are known from the western counties of Montgomery and Botetourt and the City of Radford and it is state listed Endangered. No new sites were found for juniper sedge. However while conducting the sedge surveys, botanists did find one new and one expanded colony of the federal/state listed species smooth coneflower (*Echinacea laevigata*) (G2/S2/LE/LT) in Montgomery County, one new occurrence of the state rare herb Cooper's milkvetch (*Astragalus neglectus*) (G4/S2), and updates on several other rare plant species.

Virginia sneezeweed is found in Shenandoah Valley Sinkhole Ponds and disturbed seasonal wetlands in the counties of Augusta and Rockingham in Virginia. Based on field visits made in September 2008, Virginia sneezeweed was shown to still occur at 12 of the 15 wetlands visited in



this status survey. One new location with a few plants was found in a wetland drawn-down due to the drought. An additional location in a powerline right-of-way was reported by a private landowner. Based on this status survey and the previous surveys in 2006, Virginia sneezeweed has now been documented in Virginia at a total of 34 locations representing 18 mapped locations (element occurrences) and was observed in 2006 or 2008 at 26 of the 30 wetlands revisited (and one reported non-wetland outlier). Although population numbers at some sites are in the thousands, major population declines have been observed at some of the disturbed wetlands over the last 20 years. Threats to Virginia sneezeweed continue to be mostly from hydrological modifications generally associated with increased development in this species' central Shenandoah Valley distribution. During the 2008 survey, updates were also made on other rare plant occurrences associated with Virginia sneezeweed habitat.

**CYPRESS BRIDGE SWAMP NATURAL AREA PRESERVE PROTECTED, STATE'S 57<sup>TH</sup> NATURAL AREA PRESERVE** Cypress Bridge Swamp, Southampton County, was added to the Commonwealth's Natural Area Preserve System on Friday March 27<sup>th</sup>. The 380-acre natural area contains an exemplary bald cypress – water tupelo swamp community, 40 acres of which has never been cut. When discovered in November 2005 by Natural Heritage ecologists and Mr. Byron Carmean, six state and national champion trees were documented, including Virginia's largest tree known at the time, an ancient bald cypress. Dubbed "Big Mama", this 120-foot tall matriarch died in 2008



from unknown causes but will remain on-site for decades. The preserve supports trees over 1,000 years old with diameters of 10 to 12 feet. The Natural Area Preserve system now contains 57 natural areas totaling 46,408 acres, and supporting 547 mapped locations for 322 different exemplary natural communities and rare plant and animal species.

**EXEMPLARY SINKHOLE PONDS ADDED TO DEEP RUN PONDS & SELECT OTHER ADDITIONS**

Three extremely significant tracts were recently added to the Deep Run Ponds Natural Area Preserve, Rockingham County. While the three tracts total only 38 acres, they support two globally significant Shenandoah Valley sinkhole ponds, two federally listed and globally rare plant species, northeastern

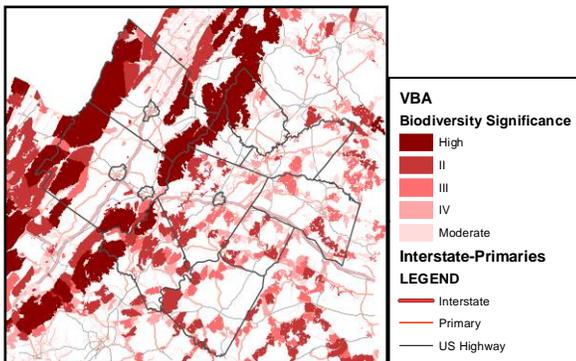


bulrush and Virginia sneezeweed, and a host of state rare species. The additions are contiguous with the NAP and an existing VA Outdoors Foundation easement. The Preserve now totals 706 acres and supports ten globally and state rare communities and species.

The Kirk tract, aka Horse Swamp Pine Barrens, a 92-acre tract supporting a native longleaf pine community and numerous rare plants and animals, was added to the Antioch Pines Natural Area Preserve, Isle of Wight County. This tract has been a Natural Heritage Program acquisition target since 1991. Persistence pays off. Another recent addition was the donation of 145 acres at Grassy Hill Natural Area Preserve, Franklin County. The tract supports multiple rare communities and species and was donated by Dr. Alice Melchor to the Western VA Land Trust for transfer to DCR's Natural Area Preserve System. The Antioch Pines NAP now contains 1,016 acres and Grassy Hill has been expanded to 1,440 acres.

## VIRGINIA BIODIVERSITY ASSESSMENT

**(VBA)** A summary of lands with known *and* predicted significant biodiversity, this statewide map and GIS layer incorporates data from the Natural Heritage Plan; specifically, Natural Heritage Conservation Sites, Stream Conservation Units, Cave/Karst Conservation Sites and the Virginia Natural Landscape Assessment (VaNLA). Predicted essential habitat lands for State Wildlife Action Plan Species of Greatest Conservation Need and DGIF T&E Waters data were included, as well. All lands and waters identified in this summary were then ranked, from Moderate to High, based on the Natural Heritage Biodiversity Rank scoring methods. The VBA provides the most comprehensive summary of Virginia biodiversity to date.



VBA snapshot.

**WHAT IS KILLING OUR BATS?** Natural Heritage scientists are working hard with private, state and federal partners on this affliction which is devastating bat populations. The cause is unknown, but the affliction has been given the name “White Nose Syndrome” (WNS) because of the telltale white fungus growing on the noses of infected bats. This fungus, a previously undescribed *Geomyces* species, may also appear on a bat’s wings, ears, and tail. Bats are losing their fat reserves (which are needed to survive hibernation) long before the winter is over and dying of starvation. Scientists do not know if the fungus is the sole cause of the bat deaths, or if it is merely an opportunistic pathogen, taking advantage of immune systems weakened by

another biological or chemical agent. WNS has been confirmed in five VA counties as of May. The impact of white-nose syndrome on bat populations could be highly significant if the condition cannot be controlled and continues to spread. Some WNS caves in New York have experienced declines of more than 90% of the bat populations. Losses in bat populations of this magnitude will cause a substantial ripple effect due to the important role that bats play as insect feeders, as a food source for other animals (hawks, owls, raccoons, skunks, and other animals that prey on bats), and with their contributions to cave ecosystems. [http://www.dcr.virginia.gov/natural\\_heritage/karsthome.shtml](http://www.dcr.virginia.gov/natural_heritage/karsthome.shtml) .

## NATURAL HERITAGE PROJECT REVIEW IN 2008

In 2008, Natural Heritage staff responded to 2,946 official requests for project review information of these, 1,584 requests came from state agencies, 629 from consulting firms, 170 from federal agencies, 176 from local governments, and the remainder came from land trusts and private citizens. 730 projects were submitted via the Natural Heritage Data Explorer Website (NHDE) and 10% of the total projects were “no comment” projects handled entirely by the NHDE web tool.

## FLORA OF VIRGINIA UPDATE

The Flora of Virginia Project is working to produce and publish a comprehensive manual to all vascular plants found as either natives or naturalized within the Commonwealth. A multifaceted campaign for leadership gifts is under way as the Project enters the home stretch. 1,230 of 1,656 illustrations are complete, progress continues on text, final review has begun for a number of families, and the website has been redesigned at [www.floraofvirginia.org](http://www.floraofvirginia.org) Natural Heritage scientists Chris Ludwig and Johnny Townsend are co-authors on the Flora, along with UNC herbarium curator Alan Weakley.

## INVASIVE SPECIES COORDINATION & LEGISLATION

The Virginia Invasive Species Working Group met on Thursday December 18. The group heard a report on the increasing threat to Virginia's forests from the Emerald Ash Borer, and received a report on the efforts by Wetland Studies and Solutions, Inc. to control purple loosestrife on the Dulles Toll Road, among other items. Governor Kaine recently signed into law legislation to develop and maintain a state invasive species management plan. [www.dcr.virginia.gov/natural\\_heritage/vaisc](http://www.dcr.virginia.gov/natural_heritage/vaisc)

## DAMERON MARSH NATURAL AREA PRESERVE NEW KAYAK LAUNCH

New public access improvements have been completed to better accommodate launching of kayaks, canoes, or other small "car-top" boats. Dameron Marsh Natural Area Preserve is home to some of the most significant Chesapeake Bays habitats for marsh-bird communities and pristine beaches for the federally threatened Northeastern beach tiger beetle. Kayakers and canoeists can use the launch all year long with a short portage of their boats from a drop-off point near the main parking area.



## HUGHLETT POINT NATURAL AREA PRESERVE OBSERVATION DECK BURNS



Before

After

A fire of unknown origin burned and completely destroyed a boardwalk and observation deck at Hughlett Point Natural Area Preserve in Northumberland County. In addition, 3-4 acres of marsh and upland habitats burned, requiring suppression response from the Department of

Forestry and local volunteer fire department. The popular deck had, for over a decade, provided a remarkable view of the Chesapeake Bay and Northern Neck salt marshes. Efforts are underway to rebuild the deck this year.

## APPALACHIAN GRIZZLED SKIPPER RESTORATION

Natural Heritage staff from the Mountain Region and Richmond offices met at Johnsons Creek Natural Area Preserve in Alleghany County to conduct a habitat



management/trail improvement project.

The habitat improvement consisted of removing small trees from an old woods road in order to open up the canopy and

encourage the growth of the host plant, *dwarf cinquefoil*, for the Appalachian Grizzled Skipper (*Pyrgus centaureae Wyandot*) (G5T1T2 S1S2).

The skipper was last observed along this road in late 1998. Tree growth in the road has shaded out the host plant increasingly since then.



## LONGLEAF PINE RESTORATION

A contracted planting crew has completed reforestation of longleaf pine on 45 acres at Chub Sandhill Natural Area Preserve in Sussex County. This effort represents Phase II of a two-year project to establish longleaf pine forests on state-owned sandy upland sites along the Nottaway River in southeast Virginia. 125 acres at Chub Sandhill NAP have now been planted to longleaf pine. All seedlings were grown from seed collected from the few remaining mature Virginia longleaf parent trees. This work was accomplished in cooperation with the Virginia Department of Forestry and funded by the Wildlife Habitat Incentives Program administered through the USDA Natural Resources Conservation Service.

**THE WORLD BENEATH** Natural Heritage Karst Program staff are helping with a year-long karst education effort in Bath, Highland and Allegheny counties. "The World Beneath" is officially sponsored by the Allegheny Highlands Environmental Council, a networking group of environmental organizations in the highlands region. Karst Program staff will give short presentations to the Boards of Supervisors of the various counties involved. These presentations will define karst and mention the unique development issues in karst areas. The presentations to the Boards of Supervisors will be followed by several karst education workshops targeting the citizens and local governments of the region.

**VOLUNTEERS AT WORK** – University of Rochester students, participating in an “Alternative Spring Break” and members of the Eastern Shore Master Naturalist Chapter, worked diligently through heat, rain and snow on two restoration projects on the Eastern Shore.



75 acres of fallow agricultural fields at Magothy Bay NAP and 35 acres at Mutton Hunk Fen NAP were planted in wax myrtle shrubs. The goal is to return the fields to migratory neo-tropical songbird habitat. Neo-tropical songbirds fly down the Eastern Shore to breeding grounds in South America during the fall migration season, stopping to build up energy stores and rest before crossing the Chesapeake Bay. The fragmentation of forest cover for residential development and agriculture has reduced the protective cover and natural food sources required by neo-tropical migrants. Wax myrtle was planted because it grows rapidly and will provide quick cover and abundant berries. It will also serve as a perch for resting songbirds, resulting in the dispersal of desirable volunteer plant species.

This past February eleven individuals met and signed on to form The Cedars Volunteer

Stewardship Committee, including the Committee’s chairman Bill Keith. With The Cedars consisting of over 1,180 acres in 15 tracts, and over 25 miles of boundary line, the formation of The Cedars VSC is a notable event. Natural Area Preserve Volunteer Stewardship Committees are volunteers with a special interest in supporting projects and programs for the natural area including conducting site patrols, organizing workdays, leading field trips, and partnering with local businesses.

Pathfinders for Greenways sponsored a public trail-work day at Poor Mountain Natural Area Preserve, Roanoke County in recognition of Earth Day. Pathfinders for Greenways is a non-



profit organization dedicated to citizen involvement in developing trails and greenways in the Roanoke Valley.

Pathfinders for Greenways provided lunch, drinks, snacks, and t-shirts for 24 volunteers who contributed over 150 hours of assistance in construction of the Piratebush Interpretive Trail. The half-mile loop trail winds through a table mountain pine forest that is habitat for the globally rare shrub, piratebush (*Buckleya distichophylla*). The trail will be complete and open to the public this summer.

**BUDGET & NATURAL HERITAGE** The Natural Heritage Program took a hard hit in the budget cutting process, on top of previous cuts of \$100,000 and nine position. October reductions of \$162,000 meant the layoff of three seasoned staff, two long-term employees went from general funds to soft money, meaning we raise their funding on an annual basis, and all general fund inventory staff lost \$10,000 of support each, meaning we now must raise funds to support part of their positions. All at a time when everyone’s funding is short, and the Natural Area Preserve System continues to grow – having doubled in size in recent years to 57 Preserves and 45,400 acres.

*Timothy M. Kaine, Governor*

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Secretary of Natural Resources*

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