



The Trillium

Piedmont Chapter
North American Rock Garden Society
Chapel Hill, Durham, Raleigh, NC

N.C.'s Conservation Efforts are Complex in Good and Bad Times — The North Carolina Natural Heritage Program, Significant Natural Heritage Areas and Ongoing Conservation Efforts

by Misty Buchanan

Prioritizing natural areas for conservation is no easy job, even in boom times when North Carolina's conservation trust funds were flush with funding and the state's land trust community was mobilized for action.

As the economy has slowed in recent years and state agencies have been asked to do more with less, it has become even more important to determine which places provide the greatest conservation benefit. The North Carolina State Nature Preserves Act of 1985 (G.S. 113A-164.1 to 164.11) established a strong public interest in the identification and protection of the state's natural areas and authorized the North Carolina Natural Heritage Program to classify and inventory these natural areas, and develop a database as a repository for this information. The Natural Heritage Program prioritizes these natural areas based on importance for conservation. Information about the Natural Heritage Program can be found at www.ncnhp.org.

Since its establishment in 1976, the Natural Heritage Program has focused on biodiversity, giving special attention to areas important for the protection of native plants and animals. The North Carolina Natural Heritage Program keeps track of rare species and high quality natural communities across the state (these are known as "Elements of Biodiversity," or "Elements") and shares information with agencies and organizations that use the information to make informed decisions for conservation action. In assigning priorities for conservation, the Natural Heritage Program gives special emphasis to natural areas that support populations of rare species or rare or high-quality natural communities. A natural area meeting these criteria is designated as a Significant Natural Heritage Area.

During the past two years, the Natural Heritage Program has intensively reviewed our methods for designing and prioritizing Significant Natural Heritage Areas. As part of this process, we reviewed the complete set of 2,500+ Significant Natural Heritage Areas, we identified the highest quality sites for each rare species and natural community, and we evaluated the conservation value of each site based on the "richness" or number of the rare species and natural communities within the natural area. This process has yielded some interesting results and helped us evaluate North Carolina's progress toward protecting some of these important natural areas.

When we determined which Significant Natural Heritage Areas support the greatest number of rare species and high-quality natural

Piedmont Chapter Meeting

October 20, 2012, 9:30 am

JC Raulston Arboretum
Ruby McSwain Education Building

"Rare Plants of the North Carolina Natural Heritage Program"

Misty Buchanan

Natural Areas Inventory Manager
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communities, we found some surprising results. Natural areas do not need to be enormous, landscape-level projects in order to support high diversity. The top sites range in size from 1,603 acres up to 276,733 acres, as can be seen in Table 1.

Site Name	Number of Rare Species and High Quality Natural Communities	Number of Acres
Roan Mountain Massif	110	12,172
Great Smoky Mountains National Park	108	276,733
Fort Bragg Natural Area (Central Area)	91	105,099
Long Hope Valley/Elk Knob/The Peak	88	8,677
Grandfather Mountain	85	6,367
Holly Shelter Game Land	75	48,193
Green Swamp	74	18,568
Bluff Mountain	64	3,181
Whitewater River Falls and Gorge	57	1,603
Horsepasture River Gorge	53	5,513

Table1: N.C. Significant Natural Heritage Areas with greatest diversity of rare species & high-quality natural communities.

The sites shown in Table 1 have long been recognized as important for biodiversity in North Carolina, and have therefore been included in conservation planning by a variety of federal, state and private organizations. All of these sites have ongoing conservation initiatives, including tracts purchased by the N.C. Division of Parks and Recreation and the N.C. Wildlife Resources Program at Roan Mountain, Elk Knob, Grandfather Mountain, and Green Swamp within the last five years with funding from the N.C. Natural Heritage Trust Fund (www.ncnhtf.org) and the Clean Water Management Trust Fund (www.cwmtf.net).

Some of the rarest species do not occur near other elements of biodiversity and therefore rarely make it to the top of any priority lists. In order to safeguard the stunning biodiversity of North Carolina, we therefore seek creative ways to protect sites that support only one or two rare species. For example, the state's only population of the state endangered Sun-facing Coneflower (*Rudbeckia heliopsidis*) currently survives along a roadside and powerline easement on land managed for timber production in Moore County. The landowner wants to maintain its timber base, so the N.C. Plant Conservation Program is considering whether it will be possible to purchase land to trade. Such a trade would enable the landowner to maintain the timber base on a different tract, and the Plant Conservation Program could then work toward restoring the natural community and enhancing the Sun-facing Coneflower population.



Photo by Bruce Sorrie

Rudbeckia heliopsidis

Another option for protecting the Sun-facing Coneflower and other sun-loving plants that sometimes find refuge on utility rights of way, is to work with utility companies to manage easements in a way that benefits rare

species, while meeting the utilities' maintenance objectives. The North Carolina Natural Heritage Program has a memorandum of understanding with Progress Energy (now transitioning to Duke Energy) that signals



Helianthus schweinitzii

Photo by Misty Buchanan

expanded and contracted with the state's economy.

The Natural Heritage Trust Fund supports the Natural Heritage Program inventory and planning efforts, and plays a leadership role in allocating funds to support conservation of many of the top priority sites identified by the Natural Heritage Program. For example, the state Division of Parks and Recreation received funds to purchase lands at Yellow Mountain State Natural Area in Avery and Mitchell Counties. This high elevation site supports a variety of mountainous habitats including Northern Hardwood Forests, Rich Coves, Boulderfield Forests, Rich Montane Seeps, Spray Cliff and a scenic waterfall, along with rare species including the state endangered



Dionea muscipula

Photo by Misty Buchanan

our intent to work together for the benefit of rare plants at 33 locations scattered throughout the Coastal Plain and Piedmont of North Carolina. This agreement supports management strategies that benefit populations of rare plants such as Venus Flytrap (*Dionea muscipula*) and Schweinitz's Sunflower (*Helianthus schweinitzii*), which occur almost exclusively in North Carolina and are so emblematic of our state's natural heritage.

The site evaluation process and the compilation of the data behind it would not be possible without the support that North Carolina's four conservation trust funds provide. Funding for the Clean Water Management Trust Fund (CWMTF), the Natural Heritage Trust Fund (NHTF), the Parks and Recreation Trust Fund (PARTF) and the Agricultural Development and Farmland Preservation Trust Fund (ADFP) is controlled by the North Carolina General Assembly. During the past decade, funding for the state's four conservation trust funds has



Yellow Mountain

Photo by Jay Leutze

(Continued from page 3)

Wood Lily (*Lilium philadelphicum* var. *philadelphicum*) and the southern appalachian endemic Northern Pygmy Salamander (*Desmognathus organi*). The land adjoins tracts protected by the Southern Appalachian Highlands Conservancy.

In the Sandhills of Moore County, the Plant Conservation Program created the Eastwood Plant Conservation Preserve with grants from the Natural Heritage Trust Fund. This natural area has longleaf pine throughout with multiple Sandhill Seeps supporting the state endangered Sandhills Lily (*Lilium pyrophilum*), state Special Concern and Federal Species of Concern Northern Pine Snake (*Pituophis melanoleucus melanoleucus*), and a recently discovered species of witch grass so new to science it is not yet formally named (until the species is described and published in a scientific journal, it will go by the unassuming name *Dichanthelium* sp. 9). A powerline right of way that bisects the nature preserve is protected through a memorandum of understanding with Progress Energy. This agreement recognizes the ecological significance of the site, and Progress Energy works to ensure that the management is complementary to conservation. A nearby agreement between a private landowner and the U.S. Fish and Wildlife Service protects habitat for the federally and state endangered Red-Cockaded Woodpecker (*Picoides borealis*).



Photo by Bruce Sorrie

Lilium pyrophilum

Large-scale conservation projects such as these, which bring together private landowners, state and federal agencies, and private corporations, are exemplary of the kind of creativity and cooperation that will be necessary to ensure the survival of North Carolina's rich natural heritage, including all the elements of biodiversity, from the most obscure plant species to the charismatic avian fauna, and the large landscapes that tie them all together.

During the last five years, as state government budgets have tightened to meet the constraints of the current economy, conservation trust funds have downsized as well. Ac-

cording to *Securing North Carolina's Future* (available at www.landfortomorrow.org), between 2007 and 2011, the funding granted by the state's conservation trust funds declined by 80 percent, from \$172.1 million to \$34.5 million. These conservation dollars have been used as effectively as possible to expand the statewide system of nature preserves and safeguard the biodiversity that makes North Carolina such an attractive place to live and work. During 2011, the Natural Heritage Trust Fund awarded more than \$9 million to protect about 3,300 acres of land. That land will be used for state parks, game lands, state forests, plant preserves and historic site protection. The land has great recreational, scientific, educational and aesthetic value. Put another way, the land "contributes to the conservation of plant life for its own sake and for the beauty and wonder people can experience in contemplating the patchwork of North Carolina's great green quilt."¹ ❧

¹ *Natural Gardens of North Carolina*, by B. W. Wells (1932)



Chapter 15: *ROCK GARDENING* by Helen Yoest

My gardening philosophy has always been, “More is better; lush is life.” I never imagined I would ever become a rock gardener. But then I attended meetings of the local chapter of the North American Rock Garden Society (NARGS) because it’s widely known that the group has the very best programs, and they lured me in.

If you want to learn about plants and have time to join only one garden club, then join NARGS. Rock gardeners are a serious group of gardeners. Not evangelical, like many other types of gardeners, but intense and committed to the tiniest plants grouped in a bunch of rocks with hopes their stratifications look natural.

When I announced on my Facebook page that I had become a rock gardener, my friend and fellow rock gardener Bobby Ward, NARGS’s executive secretary, wrote in the comment section, “Glad you finally heard the calling!” Yes, I heard my calling. This may sound a bit smug on Bobby’s part, but it wasn’t meant to be. It’s a known fact that rock gardeners are snobs. They have a reason to be since they are among the best gardeners around. Bobby is in good company, too. Southern garden writer Elizabeth Lawrence says in her book *A Rock Garden in the South*, “Some snobbery is to be expected, for all are agreed that the cultivation of rock plants is the highest form of the art of gardening.”


So in 2010, I went over to the other side of the lush life and joined this elite society. I still can’t believe they let me in. Like any garden group, the interest ranges from casual to committed. The definition of a rock garden, from the casual rock gardener’s perspective (that is, my own perspective), is as simple as plants growing in rocky soil. To the committed rock gardeners who write their own definitions, there are no rules.

For me, the most important requirements are to grow plants in my rock garden that are small in size and are in scale with the surrounding rocks or stones. I prefer plants to be less than 15 inches tall.

This is the place for the tiniest aquilegias and other perennials, the smallest bulbs, very slow growing conifers, and plants that might be smothered in areas where larger plants grow. The rock garden is an area viewed best on a raised level, perhaps using a berm or trough to raise the height of the plants. This garden can be in sun or shade. Build it with or without large rocks. Success depends on perspective and proportion.

The location I chose for my rock garden had been the herb garden. It was sloped, facing west, with poor soil. I was ready for a new challenge. I was fortunate to have natural slope in my garden, but in its absence, creating a berm would have worked as well. I added cobble-sized rocks, soil, and pine conditioner. Then I top-dressed the whole garden with gravel. I also brought in larger stones to use for visual interest and to pair with plantings. And I was very careful to ensure the stratifications in my rocks were straight and looked “natural.”

After I made my announcement to become a rock gardener, other friends wrote to say they were not surprised since, as Elizabeth Lawrence writes, “All gardeners become rock gardeners if they garden long enough.” This is not to say I will no longer garden for wildlife. I will. And I do still love large, lusty blooms—the bigger the better. But now I’ve carved out one section of Helen’s Haven to make a rock garden. Now I see petite plants that stand on their own to fascinate me and allow for new discovery.

 Some of my favorite rock gardens share similarities, including the addition of dwarf conifers to add vertical interest, giving the illusion the landscape isn't a miniature. However, they all intrigue me, whether in crevices, on berms, or even planted in hypertufa troughs; adding low growing plants that can be viewed individually is impressive to me. Rock gardens may be an acquired taste, but for me, so was coffee. Today, it's the first thing on my mind when I wake in the morning.

Adding the rock garden to Helen's Haven was the first thing I ever did that drew my husband's attention to my gardening. His comments weren't flattering—something to do with “moonsapes.” Admittedly, a ton of pea gravel can look like that. From my perspective, he just lacked vision. If he'd sat in on a NARGS lecture or toured a member's garden, I was sure he would've quickly grasped the appeal and suggested other areas we could convert.

Eighteen months later, the pea gravel in my rock garden is barely an accent under alpine plants. It's gorgeous, and I've not heard a peep from my husband, which tells me it must be acceptable.

Follow your heart, and pursue your vision. Criticism may come, but ignore it unless it's from a worthy NARGS enlightened one. If you like it, build it, and make us all proud. And for more information on NARGS, go to www.nargs.org. ☞

Note: This article on "Rock Gardening" by NARGS member Helen Yoest is a chapter from her new book titled "Gardening with Confidence: 50 Ways to Add Style for Personal Creativity" (GWC Press, 2012, \$24.95, 224 pages softcover). The article is used by permission of Helen Yoest.

For more information on Helen's book and how to obtain a copy, email her at helen@gardeningwithconfidence.com or www.gardeningwithconfidence.com.

Copies will be available at our Nov. 17 rock garden meeting. ☞
Bobby Ward

Budget Update

At the September meeting, our plant sale contributed \$567.00 to the treasury and we had one member renewal.

Piedmont Chapter NARGS 2012 Program

Piedmont NARGS Speakers Program

Fall 2012-Spring 2013

All Meetings at the JC Raulston Arboretum
All programs are on a Saturday begin at 9:30 a.m.

“The Flora of Argentina (with a Few Things
to Try in Hot, Humid North Carolina)”

November 17, 2012

Mike Kintgen

Horticulturist, Denver Botanic Gardens
& Chair, Rocky Mountain Chapter of NARGS
Denver, Colorado

Great Gardens, Part I: “Rambling Roots---Inspiration
for Your Landscape from Around the World”

January 19, 2013

Jared Barnes

Ph.D. horticulture student, NCSU
Raleigh, N.C.

“Mining the Balkans for Great Plants”

February 16, 2013

Tony Avent

Owner, Plant Delights Nursery
Raleigh, N.C.

“Lessons Learned from a Poet's Garden”

March 16, 2013

Jane Baber White

Anne Spencer Garden
Lynchburg, Va.

Great Gardens, Part II: “South Africa, Italy,
France, and Brazil”

April 20, 2013

David White

Chair, Piedmont Chapter NARGS
Durham, N.C.

***Berberis thunbergii* ‘Admiration’**

by Joann Currier

One of the most asked about shrubs in my scree garden is *Berberis thunbergii* ‘Admiration’, a recently released barberry that was discovered in the Czech Republic in 1994. The attractive foliage is orange/burgundy red with lime green margins visible from early spring to frost. It has an appealing low mounding form, growing 15-18” tall and wide and can be used as a stand-alone specimen or in combination with plants with contrasting textures, such as Yuccas, grasses or conifers.

Like most barberries ‘Admiration’ prefers sun to part sun and good drainage. Deer resistant and drought tolerant after established, it is an “eye-catching” small shrub to add to the rock garden or as an interesting accent in the border. ♪



Photo by Joann Currier

***Berberis thunbergii* ‘Admiration’**



Photo by Tom Harville

Berlandiera subacaulis

Berlandiera subacaulis

by Tom Harville



Botanical name: *Berlandiera subacaulis*

Common name: Florida Greeneyes, Chocolate Plant

Family: Asteraceae (aka Composites in English)

Category: Perennial

Primary uses: Xeric or Scree Gardens

Dimensions: 24 inches by 24 inches

Culture: Full Sun, excellent drainage

Bloom time: April through October

Color: Yellow

General attributes: Chocolate Plant is yet another DYC, or Delightful Yellow Composite. Endemic to Florida, it has fared well in the Scree Garden at the JC Raulston Arboretum. Two-inch yellow flowers cover the plant for most of the growing season. In the morning, they emit the signature chocolate scent, really more like cocoa, reason enough to grow this *Berlandiera*. I suspect foliage would look better and flowering would increase if it were cut back after the initial flowering, although we have not yet tried this at the Arboretum.

Berlandiera pumila is another eastern Chocolate Plant that differs from *B. subacaulis* primarily in foliage. It has a much larger natural range, from the Sandhills of South Carolina (apparently just missing North Carolina), over to East Texas. This was grown for a while at the JCRA, but succumbed after a few years. One source described the plant as “short-lived”, but I suspect it may have been shaded out by a fast growing *Chilopsis*. ♪



Photo by Tom Harville

Berlandiera subacaulis

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Horticulturist,
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The Trillium, Newsletter of the Piedmont Chapter
The North American Rock Garden Society
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Sept. Plant Sale Manager: Kirtley Cox

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SAVING SEEDS?

It isn't too late to harvest seeds for the Seed Exchange. After collecting, it's important to clean them well and label correctly.

See seedintake@mi.rr.com for information.

The Seed Ex is just a few weeks away now,
so let's contribute to its success.

Food Goodies to Share

If your last name begins with the letter below, please consider bringing something to share.

Oct	D-G	Jan	L-M	April
Nov	H-K	Feb	N—So	Any and all are invited to bring for sharing.
		March	Sop—Z	

Lasting Impressions Annual Garage Gallery and Plant Sale!

Saturday, October 20, 2012, 10am-2pm, 4904 Hermitage Dr.,
Raleigh, NC 27612.

Featured are unique concrete leaves, hand cast using natural
leaves; leaf patio tables,
large garden balls, and hypertufa troughs. All on sale!
Leaves - 20% off; large balls and tables - 20% off
and hypertufa troughs - 15% off.

Lots of plants too - woodland perennials,
wildflowers, ferns, shrubs, and groundcovers.

Join us in the garden on Saturday, October 20th!