



# *Wild Flower*

*Journal of the  
North Carolina Native Plant So-  
ciety*

**Threatened!**

*Winter 2008  
Volume XX*





*Wild Flower*, the journal of the N.C. Native Plant Society, accepts article submissions from members and others. Articles contributing to knowledge about native plants, the environment and related issues will be accepted as space is available and at the discretion of the editor. Articles may be submitted at any time, preferably electronically. Photos are also accepted and will be published in black and white. The journal is published in December of each year.

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# Wild Flower

## Journal of the North Carolina Native Plant Society

Winter 2008; Volume XX

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## *Kindly Note*

### Address and Email Address Corrections

Timely communication from NCNPS requires that we have your most current street address AND email address. Please also be sure to add the following addresses to your contact list (especially if you have earthlink as a server, as earthlink won't let your mail through).

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Thank you!

# *A Winter Afternoon Invitation...*

## *A Conversation with People who made a difference in Endangered Plant Protection*

Sunday, January 4, 2009  
2:00 p.m.

NC State Museum of Natural Science, Room A  
Raleigh, North Carolina

Al Elder and his colleagues at the Plant Protection Division in the NC Department of Agriculture guided the creation of the NC Plant Protection Act of 1979, which laid the foundation for the protection of native plants in North Carolina. The NC Native Plant Society welcomes you to take part in this historical conversation.

For further information, contact Alice Zawadzki,  
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# NCNPS Fall Botanizing Trip to Lake Waccamaw and Myrtle Head Savannah October 2008



Your Society held its “fall walk” October 10 – 12 in Columbus County, NC. It was an absolute marvelous weekend of botanizing, socializing and learning.

On Friday night, Janice Allen of the Coastal Land Trust, <http://www.coastallandtrust.org/index.jsp> gave us the details of the Trust’s activities in working with many other organizations to get land set aside. We were especially interested in their work on the B. W. Wells Savannah and the current effort to acquire land adjacent to that site.



Early Saturday, well maybe not that early, we set out in a drizzle for our “traditional” meandering caravan and we did all arrive at the NC State Park’s Visitor Center at Lake Waccamaw, <http://www.ncparks.gov/Visit/parks/lawa/main.php>.

Ranger Chris Helms gave us the background on “sweet” Lake Waccamaw. The limestone banks along the lake shore raise the Ph of the water much higher than most of the Carolina bay lakes. After the lecture, we broke up into the shore group and the canoe group. Misty Buchanan and Chris led the shore group along the edge of the lake. Between the two groups we saw, just on the shoreline, 20 tracked species (2 Endangered, 11 Significantly Rare, and 7 Watch List) and Jeanie Kraus spotted some spatulate-leaved sundew, *Drosera intermedia* that had not been recorded in that part of the park.

Jonathan Short and Allen Walker took the canoe group up Big Creek for some waterborne botanizing. After a picnic lunch, the groups swapped locations so everyone got to see both sites. After the afternoon excursions, we met back at the visitor’s center. We decided that on our way to dinner, we would stop along the shore line to see the only NC occurrence of southern maidenhair fern, *Adiantum capillus-veneris*. It’s not easy to find because it’s tucked under the lip of the limestone cliffs along the shore. We had lost A. J. Bullard during the afternoon but just before we got to the fern site, there he was on



Carolina grass of Parnassus, *Parnassia caroliniana*

NC Endangered, 2 NC Threatened, 5 Federal Species of Concern, and 11 Significantly Rare plant species – quite a concentration for such a small area (72 acres). It was really hard to believe that it had been burned in March of this year. I have to say for me the highlight was seeing Carolina grass of Parnassus, *Parnassia caroliniana*, in its natural habitat.

Around noon the group headed back home and if they were like me, tired, elated and just maybe a bit more savvy about our wonderful NC native flora

As a side note: All of these trips are very exciting to me but I think this one was especially so. The plants were great as usual but the crowning thread to this trip was that all three speakers just oozed knowledge and enthusiasm about their work. It was so refreshing to be around them and hear what they have to say. I do wish all of you could have been there!

Tom Harville

the side of the road. He had read that Richie Bell had found a Bumelia buckthorn (*Sideroxylon lycioides*) on the banks of Lake Waccamaw back in the '50s and AJ was on a quest to find it again. And he did, just down the road from the Maidenhair site. As a matter of fact, there were Maidenhairs within 15' of the tree.

After we extinguished our fried seafood low level lights at Dale's Seafood Restaurant, we were back to the motel to hear Rob Evans of the NC Plant Conservation Program, <http://www.ncagr.gov/plantindustry/plant/plantconserve/index.htm> talk about their work in preserving rare plants in NC. Our board member, Mark Rose is on the PCP board also.

Early Sunday morning, we were off to Myrtle Head Savannah which is owned by the Nature Conservancy, <http://www.nature.org/wherewework/northamerica/states/northcarolina/>. The drizzle had stopped, it was partly sunny and a good breeze was blowing. The breeze is very significant because it kept the *gallinippers* off us! This is a special place because of the influence of limestone under the savannah and the fire management by TNC. It has a great concentration of rare plants and animals (especially moths and butterflies). Though we didn't see them all, Myrtle Head has 1 US endangered, 4

# Plants found at Lake Waccamaw and Myrtle Head Savannah

Scientific Name	Common Name	NC Status	NC Rank	Global Rank
<i>Acer rubrum</i>	Red Maple			
<i>Adiantum capillus-veneris</i>	Venus Hair Fern	E	S1	G5
<i>Alnus serrulata</i>	Brook-side Alder			
<i>Andropogon virginicus var virginicus</i>	A Bluestem			
<i>Aristida stricta</i>	Pineland Three-awn Grass			
<i>Aronia arbutifolia</i>	Red Chokeberry			
<i>Arundinaria tecta</i>	Switch Cane, Small Cane			
<i>Azolla caroliniana</i>	Carolina Mosquito-fern			
<i>Bacopa caroliniana</i>	Blue Water-hyssop	SR-P	S1	G4G5
<i>Boltonia asteroides</i>	White Doll's-daisy	SR-O	S2	G5
<i>Centella erecta</i>	Erect Coinleaf			
<i>Cephalanthus occidentalis</i>	Common Buttonbush			
<i>Cladium mariscoides</i>	Twig-rush	SR-O	S3	G5
<i>Clethra alnifolia</i>	Coast Pepper-bush			
<i>Cnidioscolus stimulosus</i>	Risky Tread-softly			
<i>Cornus florida</i>	Flowering Dogwood			
<i>Cyrilla racemiflora</i>	Swamp Cyrilla, Titi			
<i>Diospyros virginiana</i>	Persimmon			
<i>Drosera capillaris</i>	Pink Sundew			
<i>Drosera intermedia</i>	Spoon-leaved Sundew			
<i>Epidendrum magnoliae*</i>	Green-Fly Orchid	SR-P	S2	G4
<i>Eriocaulon aquaticum</i>	Seven-angled Pipewort	SR-P	S2	G5
<i>Eupatorium leucolepis</i>	White-bract Thoroughwort			
<i>Eupatorium mohrii</i>	Mohr's Thorough-wort			
<i>Fuirena pumila</i>	Dwarf Umbrella-sedge			
<i>Gaylussacia dumosa var. dumosa</i>	Southern Dwarf Huckleberry			
<i>Gaylussacia frondosa</i>	Dangle-berry			
<i>Gelsemium sempervirens</i>	Yellow Jessamine			
<i>Gordonia lasianthus</i>	Loblolly Bay			

<i>Habenaria repens</i>	Water-spider Orchid	W1	S2	G5
<i>Hydrocotyle umbellata</i>	Many-flowered Pennywort			
<i>Hypericum crux-andreae</i>	St. Peter's-wort			
<i>Ilex ambigua</i>	Carolina Holly	W1	S3	G5
<i>Ilex coriacea</i>	Bay-gail Holly			
<i>Ilex glabra</i>	Ink-berry			
<i>Itea virginica</i>	Virginia Willow			
<i>Juncus abortivus</i>	Pinebarren Rush			
<i>Juniperus virginiana</i>	Eastern Red Cedar			
<i>Lachnanthes carolina</i>	Carolina Redroot			
<i>Lachnocaulon beyrichianum</i>	Southern Bogbutton			
<i>Leucothoe racemosa</i>	Fetter-bush			
<i>Liatris pilosa</i>	Grass-leaf Gayfeather			
<i>Lobelia elongata</i>	Elongated Lobelia			
<i>Ludwigia sphaerocarpa</i>	Globe-fruit Seedbox	SR-P	S1	G5
<i>Luziola fluitans</i>	Southern Water Grass	SR-P	S2	G4G5
<i>Lycopodiella appressa</i>	Southern Bog Clubmoss			
<i>Lycopus angustifolius</i>	Southern Bog Water-horehound	SR-P	S1	G4?Q
<i>Lyonia lucida</i>	Fetter-bush			
<i>Magnolia virginiana</i>	Sweetbay Magnolia			
<i>Morella cerifera</i>	Southern Bayberry, Common Wax-myrtle			
<i>Morella pumila</i>	Dwarf Wax-myrtle			
<i>Nuphar sagittifolia</i>	Narrowleaf Cowlily	W1	S2	G5T2
<i>Nymphoides aquatica</i>	Big Floating-heart			
<i>Nyssa biflora</i>	Swamp Black Gum			
<i>Opuntia humifusa var humifusa</i>	Prickly Pear			
<i>Osmanthus americanus</i>	Wild Olive			
<i>Osmunda cinnamomea</i>	Cinnamon Fern			
<i>Osmunda regalis</i>	Royal Fern			
<i>Panicum hemitomon</i>	Maidencane			
<i>Panicum tenerum</i>	Southeastern Panic Grass	W1	S3	G4
<i>Persea palustris</i>	Swamp Bay, Swamp Red Bay			
<i>Pinus palustris</i>	Long-leaf Pine			

<i>Pinus serotina</i>	Pond Pine			
<i>Pinus taeda</i>	Loblolly Pine			
<i>Pityopsis graminifolia</i> var <i>latifolia</i>	A Silkgrass			
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	Resurrection Fern			
<i>Pluchea rosea</i>	Rosy Camphor-weed			
<i>Polygala lutea</i>	Yellow Milkwort			
<i>Polygonella polygama</i>	October-flower			
<i>Pontederia cordata</i>	Pickrel Weed			
<i>Pteridium aquilinum</i>	Bracken Fern			
<i>Pterocaulon pycnostachyum</i>	Coastal Blackroot			
<i>Quercus hemisphaerica</i>	Darlington's Oak			
<i>Quercus laevis</i>	Turkey Oak			
<i>Rhexia cubensis</i>	West Indies Meadow-beauty	W1	S3	G4G5
<i>Rhexia petiolata</i>	Ciliate Meadow-beauty			
<i>Rhododendron atlanticum</i>	Dwarf Azalea			
<i>Rhynchospora nitens</i>	Shortbeak Baldsedge	W1	S3	G4?
<i>Saccharum giganteum</i>	Giant Beard Grass, Sugarcane Plumegrass			
<i>Sacciolepis striata</i>	Cupscale Grass, Gibbous Panic-grass			
<i>Sagittaria isoetiformis</i>	Quillwort Arrowhead	SR-P	S2	G4?
<i>Schizachyrium scoparium</i>	Little Bluestem			
<i>Sclerolepis uniflora</i>	One-flower Hardscale	SR-T	S2	G4
<i>Smilax laurifolia</i>	Laurel-leaf Greenbrier			
<i>Smilax walteri</i>	Walter Greenbrier			
<i>Taxodium ascendens</i>	Pond Cypress			
<i>Taxodium distichum</i>	Bald Cypress			
<i>Tillandsia usneoides</i>	Spanish Moss			
<i>Triadenum</i> sp.	Marsh St. John's Wort			
<i>Typha latifolia</i>	Broad-leaf Cattail			
<i>Utricularia cornuta</i>	Horned Bladderwort	SR-P	S1S2	G5
<i>Utricularia gibba</i>	Humped Bladderwort			
<i>Utricularia purpurea</i>	Purple Bladderwort			

<i>Utricularia resupinata</i>	Northeastern Bladderwort, Lavender Bladderwort	E	S1	G4
<i>Vaccinium tenellum</i>	Small Black Blueberry			
<i>Vitis rotundifolia</i>	Muscadine Grape			
<i>Wisteria frutescens</i>	American Wisteria			
<i>Woodwardia virginica</i>	Virginia Chainfern			
<i>Xyris smalliana</i>	Small's Yellow-eyed-grass	W1	S3	G5
<b>Count of NC Status</b>				
<b>NC Status</b>	<b>Total</b>			
E	2			
SR-O	2			
SR-P	8			
SR-T	1			
W1	7			
(blank)				
Grand Total	20			

# End of the Edwards Mills Rescue

I went down today to check the status of the clearing for the new roadway.

In this pic, I'm standing approximately where we entered the woods from the end of Edwards Mill Rd. on the backside of the dirt pile.



That pile of

mulch you see in the distance is approximately where we were last digging Xmas ferns.



Here in this panoramic shot, I'm stand in the sewer line between the two manholes looking toward Hwy 54.

Oh, the rip rap! That's at the end of a pipe in the beautiful little creek.



Well, I walked out to the end close to Hwy 54 to see the big wash where we rescued all those huge, beautiful

ferns. So here is what it looks like now.



As I walked back, I think, I figured out where we rescued the Carolina Lilies.

Then back toward the entrance, I thought this was a telling shot, with the bulldozer blade poised menacingly over the old Xmas fern location



I am saddened by this loss for many reasons, but I take a bit of solace in the fact that we did move thousands of native plants that would otherwise be gone. It also reinforces the idea that when we find a site like this, we should NOT PROCRASTINATE! Opps, sorry, I got a bit carried away.

If you know of a site that is going to be developed, let me know—please!

Please take a look at the attached plant list and add anything I have missed. I will send this to the Dept of Agriculture and the City of Raleigh.

Tom

# Edwards Mills Rescued Plants....

## Botanical Name

## Common Name

<i>Agalinis purpurea</i>	purple gerardia
<i>Amianthium muscaetoxicum</i>	fly poison
<i>Antennaria plantaginifol</i>	pussytoes
<i>Aplectrum hyemale</i>	putty root
<i>Aralia spinosa</i>	devil's walking stick
<i>Aureolaria</i> sp.	false foxglove
<i>Betula nigra</i>	river birch
<i>Calycanthus floridus</i>	sweet betsy
<i>Carex</i> sp.	
<i>Cercis Canadensis</i>	redbud
<i>Chamaelirium luteum</i>	devil's bit
<i>Chimaphilia maculate</i>	spotted pipsissewa
<i>Chrysigonum virginianum</i>	green & gold
<i>Claytonia virginica</i>	springbeauty
<i>Cornus florida</i>	flowering dogwood
<i>Cryopsis graminifolia</i>	rass-leaved golden aster
<i>Cypripedium acaule</i>	pink lady's slipper
<i>Elephantopus carolinianus</i>	elephant's foot
<i>Epifagus virginiana</i>	beechdrops
<i>Euonymus americanus</i>	hearts-a-bustin
<i>Eupatorium fistulosum</i>	Joe Pye weed
<i>Eupatorium perfoliatum</i>	boneset
<i>Fagus grandifolia</i>	American beech
<i>Fragaria virginiana</i>	wild strawberry
<i>Goodyera pubescens</i>	rattlesnake plantain
<i>Hamamelis virginiana</i>	witch hazel
<i>Helianthus angustifolius</i>	sunflower
<i>Helianthus divaricatus</i>	woodland sunflower
<i>Hexastylis arifolium</i>	wild ginger
<i>Ilex opaca</i>	American holly
<i>Isotria verticillata</i>	large whorled pogo-
nia	
<i>Lilium michauxii</i>	Carolina lily
<i>Liriodendron tulipifera</i>	tulip poplar
<i>Lobelia elongata or puberula?</i>	
<i>Lobelia inflata</i>	indian tobacco
<i>Mitchella repens</i>	partridgeberry
<i>Myrica cerifera</i>	wax myrtle
<i>Oxydendrum arboretum</i>	sourwood

## Botanical Name

## Common Name

<i>Phryma leptostachya</i>	lop seed
<i>Polygonatum biflorum</i>	Solomon's seal
<i>Salvia lyrata</i>	lyre-leaved sage
<i>Sassafras albidum</i>	sassafras
<i>Scutellaria intergrifolia</i>	skullcap
<i>Silphium compacta</i>	kidney-leaved rosinweed
<i>Smilacina racemosa</i>	Solomon's plume
<i>Smilax</i>	catbrier
<i>Solidago altissima</i>	goldenrod
<i>Solidago caesia</i>	bluestem goldenrod
<i>Solidago rugosa</i>	rough leafed goldenrod
<i>Specularia perfoliata</i>	Venus' looking glass
<i>Symplocos tinctoria</i>	horse sugar
<i>Vaccinium corymbosium(?)</i>	high bush blueberry
<i>Viburnum acerifolium</i>	maple leafed viburnum
<i>Uvularia sessilifolia</i>	bellwort
<i>Xanthorhiza simplicissima</i>	yellow-root
<i>Yucca filamentosa</i>	Spanish bayonet

## **FERNS**

<i>Anthyrium asplenoides</i>	lady
<i>Asplenium platyneuron</i>	ebony spleenwort
<i>Botrychium dissectum</i>	grape
<i>Botrychium virginianum</i>	rattlesnake
<i>Lycopodium digitatum</i>	running cedar
<i>Lycopodium obscurum</i>	tree club moss
<i>Onoclea sensibilis</i>	sensitive
<i>Osmunda cinnamomea</i>	cinnamon
<i>Osmunda regalis</i>	royal
<i>Polystichum acrostichoides</i>	Christmas
<i>Thelypteris noveboracensis</i>	New York
<i>Woodwardia areolata</i>	netted chain

## *America's Native Herbs:* *Gaultheria procumbens, teaberry*



In spite of its diminutive size, growing only 4-8 inches tall and spreading only as much as four inches in a year, *Gaultheria procumbens* is a shrub (or shrublet) in the Ericaceae, or Heath, family. They creep along woodland floors, forming dense carpets of lustrous, mostly evergreen leaves.

*G. procumbens* is one of the few essential-oil-bearing plants in the family of more than 2000 species that includes rhododendrons, azaleas, heaths and heathers, mountain laurel, and blueberries. The plants are generally restricted to cooler regions of temperate climates, thriving in humus or sandy, acidic soil, with a pH range of 4.0-6.5. The plants require 120 frost-free days to produce flowers and fruit, growing best under a tall forest canopy with ample light. Their roots are shallow, extending a maximum of twelve inches, making them suitable for thin soils. Once established, they tolerate drought, and will survive quickly burning fires that do not destroy all leaf litter.,

The fruits, produced after flowering, which may occur from May to September, depending upon location, persist through the winter, providing a source of food for deer, turkeys, grouse, bobwhite, pheasant, black bears, mice, and red fox. Though none eat copiously of the red berries, it does provide a source of nutrition through the winter.

Humans find the fruits and leaves more palatable, giving rise to a number of uses as attested by some

of the common names—teaberry, wintergreen, ground tea, and spice berry. Leaves, woody stems, and fruits have a pleasant wintergreen flavor, useful in beverages (birch beer) and flavoring chewing gum (Teaberry gum), candy, toothpaste, mouthwash, and medicine. Mohawk, Ojibwa, Chippewa and other northeastern tribes brewed a pleasant tea, which they also found useful for headache, rheumatism, earaches, indigestion and as a general tonic. Chemistry has borne out their faith in the plant as a healer, as it turns out to be high in methyl salicylates, a cousin of acetylsalicylic acid, the active ingredient of aspirin. Stems and roots were chewed by Native Americans and Colonists to relieve toothache, and coincidentally served as an aide to good oral hygiene, as the methyl salicylates worked to prevent dental caries and periodontal disease.

Wintergreen tea, claimed by some to be superior to China tea, was made from the leaves. Those who make a tea these days are often disappointed at the bland taste, which happens when the brew is improperly prepared. To make a tasty tea, the leaves must first be fermented: harvest leaves any time of year, clean, and pack into a small jar. Fill the jar with filtered water, cover and let sit for 2-3 days, or until the water begins to bubble. To make the tea, strain and dilute the fermented water to taste, heat gently and serve. The flavored water can also be added to lemonade or black tea, while the fermented leaves may be dried and saved for later use.

The essential oil, found in the inner layer of stem wood, in the fruits, and in the leaves, is distilled for use in beverages, medicine, and the cosmetic industry. Because of the quantity needed, and chemical similarity, *Betula lenta*, black birch, was adopted as a substitute in the commercial production of oil of wintergreen.

The methyl salicylate content of the essential oil makes it a potent toxin—one teaspoon (5 mL) of wintergreen oil is equivalent to approximately 7000 mg of salicylate or 21.5 adult aspirin tablets. Oil of wintergreen has GRAS (FDA Generally Recognized as Safe) status, but should not be used in amounts exceeding the quantity approved for food use. The pure oil, which is delightfully fragrant, is especially harmful for children, those with asthma (who are more likely to have aspirin sensitivity), and those on warfarin therapy. External application of oil of wintergreen (topical applications for pain) can present problems if used by persons who are also taking aspirin or warfarin.

My mother never cared for wintergreen, remembering her experiences with flavored medicines as a child. As it turns out, some early synthetic oil of wintergreen preparations were adulterated with camphor oils, which may have made a product less palatable. In my mother's case, perhaps the oil of wintergreen simply failed to disguise the bitterness of the medicine. Regardless, many of us are familiar with wintergreen flavoring, though since 1886, synthetic oil has been used almost exclusively in commercial preparations.

*G. procumbens* makes an excellent landscape groundcover in a lightly shaded area, with small but attractive bell-shaped white to pink flowers in spring or summer, red fruits that persist through the winter, and mostly evergreen (thus, winter green) leaves that take on a tinge of red in the fall. The leafy stems arise from horizontal rhizomes, with oblong leaves from 2-5 cm long, entire or crenulate (with small rounded teeth) and glabrous on the surface. The flowers are borne on nodding pedicels as long as or longer than the length of the flowers. Some of our native bees (*Bombus* spp.) pollinate the little flowers. It is slow to start, but once established will provide a carpet of color much more appealing than some invasive plants, periwinkle especially comes to mind, that we currently use.

*Gaultheria procumbens* history of use for food and for medicine makes it as much a herb as parsley, sage, rosemary or thyme.

Katherine Schlosser

<sup>1</sup>Baumgardt, John Phillip. *How To Identify Flowering Plant Families*. Timberpress, 1982. p.138.

<sup>2</sup>USDA Plants Database. *Gaultheria procumbens* Characteristics. <http://plants.usda.gov/java/charProfile?symbol=GAPR2> Accessed 11-21-2008.

<sup>3</sup>Coladonato, Milo. 1994. *Gaultheria procumbens*. In: Fire Effects Information System, [Online].

<sup>4</sup>U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). <http://www.fs.fed.us/database/feis/plants/shrub/gaupro/all.html> [2008, November 25].

<sup>5</sup>Gilmore, Melvin R. 1933 *Some Chippewa Uses of Plants*. Ann Arbor. University of Michigan Press (p. 138)

<sup>6</sup>Agricultural Research Services, USDA, James E. Duke Ethnobotanical Uses, *Gaultheria procumbens*. <http://sun.ars-grin.gov:8080/npgspub/xsql/duke/plantdisp.xsql?taxon=433> Accessed November 18, 2008.

<sup>7</sup>Wu, C. D.; I. A. Darout; N. Skaug. "Chewing sticks: timeless natural toothbrushes for oral cleansing". *Journal of Periodontal Research*, Vol. 36, Issue 5, March 25, 2002. pages 275-284.

<sup>8</sup>Native American Indian Resources. *Wintergreen Hides In Snow*. <http://www.kstrom.net/isk/food/wintergr.html> Accessed Nov. 17, 2008.

<sup>9</sup>Sawer, John Ch. *Odorographia: A Natural History of Raw materials and Drugs Used in the Perfume Industry*, Second series. Guernsey & Jackson, London. 1894. pages 326-339.

<sup>10</sup>Drugs.com, "Wintergreen: Clinical Overview." <http://www.drugs.com/npp/wintergreen.html#ref3> Accessed Nov. 18, 2008.

<sup>11</sup>Sulz, Charles Herman, "Oil of Wintergreen," *A Treatise On Beverages or The Complete Practical Bottler*. Dick & Fitzgerald Publishers, 1888. Available at <http://chestofbooks.com/food/beverages/A-Treatise-On-Beverages/Oil-Of-Wintergreen.html> Accessed Nov. 18, 2008.

<sup>12</sup>Gildemeister, E. "The Volatile Oils Vol. 1". Accessed from Chest of Books, <http://chestofbooks.com/health/aromatherapy/The-Volatile-Oils-Vol1/Oil-Of-Wintergreen.html>, Nov. 12, 2008.

*Photo by James R. Sime, Robert W. Freckman Herbarium, Univ. of Wisconsin-Stevens Point.* <http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=GAUPRO>

# *Comprehensive Threat Assessment of all Plants Tracked by the NC Natural Heritage Program*

Report from Misty Buchanan, November, 2008

During 2007-2008, the North Carolina Plant Conservation Program (PCP) and North Carolina Natural Heritage Program (NHP) launched a comprehensive review of North Carolina's rare plants with the goal of identifying and assessing rarity, threats, and trends associated with all the taxa tracked by the Natural Heritage Program. The results of this assessment were used by the PCP Scientific Committee during their 2008 review of PCP's *Protected Plant List* to determine which species warrant listing and to create a list that is scientifically defensible, consistent, and intuitive. The results of the assessment can also be used to help set conservation priorities within PCP and other government and nonprofit conservation agencies.

PCP staff held 15 meetings with the PCP Scientific Committee and botanists around the state to review criteria and assess rarity, threats, and trends for 900 plant taxa tracked by NHP as endangered, threatened, or rare. Botanists who contributed to the assessment are associated with NHP and PCP as well as US Fish and Wildlife Service, National Park Service, USDA Forest Service, NC Botanical Garden, NC Museum of Natural Sciences, University of North Carolina Herbarium (NCU), North Carolina State University Herbarium (NCSC), Appalachian State University Herbarium (BOON), and private botanists and consultants.

Historically in North Carolina, protected plant lists have emphasized rarity as the primary factor determining extinction risk, while the current assessment recognizes rarity as one of three factors (rarity, trends, and threats). The criteria for the assessment were modified from guidelines developed by NatureServe (Master et al. 2003) and the World Conservation Union (IUCN) (Standards and Petitions Working Group 2006). The data on rarity, threats, and trends is based on expertise from 26 botanists and biologists who participated in the review and data from NHP. NHP began collecting data in 1975 and has more than 10,700 records of rare plant occurrences.

## **Rarity**

Measures of rarity take into account number of occurrences in the state and viability of each occurrence (population size, habitat condition, and landscape context). NHP data were used to determine viability according to Element Occurrence Ranking Specifications developed by the NatureServe network. The number of occurrences was determined using the NatureServe Element Occurrence Delimitation Guidance (NatureServe 2002). For the assessment, taxa were categorized according to the number of populations ranked as having good to excellent viability. Of the species assessed, 233 plant taxa were found to have zero viable populations (i.e., all occurrences are considered poorly viable, historical, or extirpated). The rarity assessment results are summarized in Table 1.

Number of Viable Populations	Number of plant taxa
0	233
1 – 5	447
6 – 20	189
> 20	31

Table 1: Rarity categories for 900 taxa of plants evaluated in 2007-2008

## **Trends**

Each taxon was evaluated for short-term trends (including extent of occurrences, number of occurrences, and/or condition of occurrences). Short-term trends are defined as those that have occurred over the past 10-20 years. The number of populations known or believed to be recently extirpated was determined by NHP data and observations from experts who attended the assessment meetings. Trends are unknown for 544 species, indicating a major gap in information available about North Carolina's rare taxa. The trend assessment results are summarized in Table 2.

Trend	Number of Plant Taxa
A = Severely declining (decline of >70% in population, range, area occupied, and/or number or condition of occurrences)	7
B = Very rapidly declining (decline of 50–70%)	6
C = Rapidly declining (decline of 30–50%)	16
D = Declining (decline of 10–30%)	98
E = Stable (unchanged or remaining within $\pm 10\%$ fluctuation)	227
F = Increasing (increase of >10% in population)	2
U = Unknown (short-term trend unknown)	544

*Table 2: Trend categories for 900 taxa of plants evaluated in 2007-2008*

Threat Category	Number of Plant Taxa
A - Moderate to severe, imminent threat for >60% of population, occurrences, or area	129
B - Moderate to severe, imminent threat for a significant proportion (20-60%) of population, occurrences, or area	119
C - Moderate to severe, non-imminent threat for >60% of population, occurrences, or area	57
D - Moderate to severe, non-imminent threat for a significant proportion (20-60%) of population, occurrences, or area	23
E - Moderate to severe threat for small proportion of population, occurrences, or area	61
F - Low severity threat for most or significant proportion of population, occurrences, or area	22
G - Low severity threat for a small proportion of population, occurrences, or area	27
H - Unthreatened/Insignificant	13
U - Unknown	449

*Table 3: Threat categories for 900 taxa of plants evaluated in 2007-2008*

### Threats

For the first time in North Carolina, the threats acting on each tracked plant taxon were evaluated. NHP data and other observations collected from experts during the PCP Scientific Committee meetings were used to rate up to three threats for each taxon according to the severity of the threat (i.e., how badly and irreversibly the population is affected), scope (i.e., what proportion of population in NC is affected), and immediacy (i.e., how likely the threat is and how soon is it expected). If more than

three threats exist for a taxon, the three most severe were used in the threat assessment. This evaluation includes indirect and direct threats that are observed, inferred, or suspected to have an impact on the plant taxon. This evaluation also allows for the possibility of species to have no or insignificant threats.

The values calculated from the scope, severity, and immediacy of each threat were incorporated into a matrix that generated a single, consolidated threat category value for each taxon. One exception to this procedure occurred for taxa that are limited to 1-2 populations in North Carolina. These taxa are considered inherently susceptible to stochastic (unpredictable) threats and were therefore assigned to the highest threat category. Threats acting on 449 plant species are unknown, indicating another

Table 4 lists all the threats associated with the 900 taxa included in the assessment. Most threats identified are extrinsic to the taxa and are generally anthropogenic. The impacts of human activity listed below include both direct (e.g., destruction of habitat) and indirect (e.g., invasive species introduction) impacts. Effects of natural phenomena (e.g., fire, hurricane, flooding) have increased in importance as the populations of some species have become concentrated in one location or a few occurrences, sometimes resulting from human activity. Factors which threaten some species' survival are necessary for the survival of other species. For example, both the creation and the destruction of impoundments are considered threats, though to different taxa. Many threats, such as sea level rise, are considered low in scope, severity, and/or immediacy, but they may impact a high number of plant taxa. For a complete list of the threats associated with each taxon, contact NHP or PCP.

## Results

The primary result of the assessment was a list of proposed changes to the Plant Conservation Program *Protected Plant List*. The changes recommended by the PCP Scientific Committee are shown in Appendix A. The Plant Conservation Program Board voted in August 2008 to accept the recommendations, and at the time of this report, the recommended changes were in the rule-making process. It is expected that the recommendations will be subject to a public comment period in 2008 or 2009, and any changes in status resulting from this assessment may be in effect before publication of the 2010 Natural Heritage Program's Rare Plant List. The most up to date list of protected plants, laws, and regulations can be found at the Plant Conservation Program website, [www.ncplant.com](http://www.ncplant.com). For details on how the assessment was performed or specific results, contact the PCP staff botanist (Laura Gadd) or plant ecologist (Rob Evans).

This assessment also revealed a number of substantial gaps in the data available on rare plant taxa in North Carolina. Short term trends are unknown for 60% of species assessed (544 out of 900). Threats acting on populations are unknown for almost 50% of the species assessed (449 out of 900). At the same time, 75% of the species assessed have less than 6 viable populations in the state. The majority of the threats result from human

activities. Most threats are expected to increase as the population of North Carolina increases. Meanwhile, conservation agencies who track and monitor rare species compete for limited funding from government and nonprofit sources. In the face of these challenges, we must find a way to do a better job collecting information about the rarest species in our state, so that we can make informed decisions about allocating our limited resources to protect the great diversity of native plants in North Carolina.

Misty Buchanan  
NC Natural Heritage Program

Threat	# of Plant Taxa
Development	164
Fire Suppression	127
Agriculture/Silviculture (including incompatible forestry practices)	119
Invasive Exotic Species	88
Stochastic Events (unpredictable events that may cause extinction if species is represented by only one or two populations in North Carolina)	70
Trampling (including impacts from recreational hikers and ATV use)	66
Roadside Maintenance	50
Water Table Drawdown	46
Ecological Succession Favoring Woody Trees and Shrubs (from causes other than Fire Suppression); this threat affects many species in mountain bogs	43
Deliberate Hydrologic Alteration (including wetland draining by creation of ditches)	28
Sea Level Rise (Change In Hydrology )	20
Impoundment Destruction/Dam Breach	13
Sea Level Rise (Change In Salinity )	12
Power Line Corridor Maintenance	11
Over Collection or Poaching	9
Herbivory	8
Natural And Manmade Impoundments	8
Trash Dumping	8
Military Development And Training Activity	6
Climate Change	4
Beach Nourishment and Stabilization	3
Incompatible Wildlife Management Practices	3
Landslides	3
Blight	2
Drought	2
Hybridization	2
Mowing Regime Change	2
Acid Rain	1
Dredging (Salt Water Intrusion )	1
Fire Break Maintenance	1
Lack Of Disturbance (Scour)	1
Prescribed Fire	1
Railroad Maintenance	1
Scouring	1
Sedimentation	1
Sewer Line Impacts Along Streams	1
Water Quality Contamination	1

Table 4. Threats identified and number of species affected.



Photo from USDA Plants Database

#### References:

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#### APPENDIX A – PLANT CONSERVATION PROGRAM PROPOSED CHANGES TO LIST OF ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

The following list summarizes proposed changes to  
the PCP list of protected species approved by the  
PCP Board in August 2008. Comments about the

proposed changes should be directed to PCP staff.  
For the most up to date list of protected plants,  
laws, regulations, and staff contact information, visit  
the Plant Conservation Program website,  
**[www.ncplant.com](http://www.ncplant.com)**.

#### \*Abbreviations:

E =Endangered

T =Threatened

SR =Significantly Rare (not listed by PCP, but  
tracked by the Natural Heritage Program)

SC-V =Special Concern Vulnerable

SC-H =Special Concern Historical

The categories SC-V and SC-H are proposed new  
status categories, and will be defined by PCP when  
the rules take effect.

Scientific Name	Common Name	Proposed Status	Current State Status
<i>Acrobolbus ciliatus</i>	A Liverwort	SC-V	SR-D
<i>Adiantum capillus-veneris</i>	Venus Hair Fern	T	E
<i>Adlumia fungosa</i>	Climbing Fumitory	SC-V	SR-P
<i>Aeschynomene virginica</i>	Sensitive Jointvetch	T	T
<i>Agalinis virgata</i>	Branched Gerardia	T	SR-P
<i>Agrostis mertensii</i>	Arctic Bentgrass	E	E
<i>Allium cuthbertii</i>	Striped Garlic	T	SR-T
<i>Alnus viridis ssp. crispa</i>	Green Alder	SC-V	SR-D
<i>Amaranthus pumilus</i>	Seabeach Amaranth	T	T
<i>Amorpha georgiana var. confusa</i>	Savanna Indigo-bush	T	T
<i>Amorpha georgiana var. georgiana</i>	Georgia Indigo-bush	E	E
<i>Amphicarpum muehlenbergianum</i>	Florida Goober Grass	E	E
<i>Andropogon mohrii</i>	Bog Bluestem	T	SR-P
<i>Anemone berlandieri</i>	Southern Anemone	E	SR-P
<i>Anemone caroliniana</i>	Prairie Anemone	E	SR-P
<i>Arabis pycnocarpa var. adpressipilis</i>	Hairy Rockcress	E	SR-P
<i>Arethusa bulbosa</i>	Bog Rose	E	E
<i>Aristida condensata</i>	Big Three-awn Grass	T	SR-P
<i>Aristida simpliciflora</i>	Chapman's Three-awn	E	SR-T
<i>Arnoglossum ovatum</i>	Savanna Indian-plantain	E	SR-P
<i>Asclepias pedicellata</i>	Savanna Milkweed	SC-V	SR-P
<i>Asplenium heteroresiliens</i>	Carolina Spleenwort	E	E
<i>Asplenium monanthes</i>	Single-sorus Spleenwort	E	E
<i>Asplenium ruta-muraria</i>	Wall-rue Spleenwort	SC-V	SR-P
<i>Astragalus michauxii</i>	Sandhills Milk-vetch	SC-V	T
<i>Baccharis glomeruliflora</i>	Silverling	SC-H	SR-P
<i>Bacopa caroliniana</i>	Blue Water-hyssop	T	SR-P
<i>Bacopa innominata</i>	Tropical Water-hyssop	SC-H	SR-P
<i>Balduina atropurpurea</i>	Purple-disk Honeycomb-head	SC-H	SR-T
<i>Baptisia alba</i>	Thick-pod White Wild Indigo	T	SR-P
<i>Baptisia albescens</i>	Thin-pod White Wild Indigo	SC-V	SR-P
<i>Baptisia bracteata</i>	Creamy Wild Indigo	SC-H	SR-P
<i>Baptisia minor var. aberrans</i>	Prairie Blue Wild Indigo	E	T
<i>Berberis canadensis</i>	American Barberry	SC-V	SR-T
<i>Betula cordifolia</i>	Mountain Paper Birch	SC-V	SR-D
<i>Boechera missouriensis</i>	Missouri Rockcress	SC-V	SR-P
<i>Boechera patens</i>	Spreading Rockcress	T	SR-T
<i>Bryocrumia vivicolor</i>	Gorge Moss	SR	E
<i>Buchnera americana</i>	American Bluehearts	SC-H	SR-P
<i>Buckleya distichophylla</i>	Piratebush	T	E
<i>Bulbostylis warei</i>	Ware's Hair Sedge	SC-H	SR-P
<i>Calamagrostis cainii</i>	Cain's Reed Grass	E	E
<i>Calopogon multiflorus</i>	Many-flower Grass-pink	E	E
<i>Caltha palustris</i>	Marsh-marigold	E	SR-P
<i>Camassia scilloides</i>	Wild Hyacinth	T	T
<i>Campanula rotundifolia</i>	Bluebells	E	SR-P
<i>Campylium stellatum</i>	Yellow Starry Fen Moss	SC-V	SR-D
<i>Canoparmelia amabilis</i>	Worthy Shield Lichen	SC-V	E
<i>Cardamine dissecta</i>	Dissected Toothwort	SC-V	SR-P
<i>Cardamine douglassii</i>	Douglass's Bittercress	T	SR-P
<i>Cardamine longii</i>	Long's Bittercress	SC-V	SR-T

Scientific name	Common Name	Proposed Status	Current State Status
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<i>Cardamine micranthera</i>	Small-anthered Bittercress	E	E
<i>Cardamine rotundifolia</i>	Mountain Watercress	T	SR-P
<i>Carex argyrantha</i>	Hay Sedge	E	SR-P
<i>Carex barrattii</i>	Barratt's Sedge	SC-H	E
<i>Carex buxbaumii</i>	Brown Bog Sedge	SC-V	SR-P
<i>Carex careyana</i>	Carey's Sedge	T	SR-P
<i>Carex cherokeensis</i>	Cherokee Sedge	E	SR-P
<i>Carex conoidea</i>	Cone-shaped Sedge	SC-V	T
<i>Carex cristatella</i>	Small-crested Sedge	SC-H	SR-P
<i>Carex decomposita</i>	Cypress Knee Sedge	SC-V	SR-T
<i>Carex eburnea</i>	Bristle-leaf Sedge	T	SR-P
<i>Carex exilis</i>	Coastal Sedge	E	T
<i>Carex hitchcockiana</i>	Hitchcock's Sedge	SC-V	SR-P
<i>Carex hormathodes</i>	A Sedge	T	SR-P
<i>Carex lutea</i>	Golden Sedge	E	E
<i>Carex oligocarpa</i>	Rich-woods Sedge	T	SR-P
<i>Carex oligosperma</i>	Few-seeded Sedge	E	E
<i>Carex pedunculata</i>	Longstalk Sedge	SC-V	SR-P
<i>Carex purpurifera</i>	Purple Sedge	SC-V	SR-P
<i>Carex radfordii</i>	Radford's Sedge	T	E
<i>Carex reniformis</i>	Kidney Sedge	T	SR-P
<i>Carex schweinitzii</i>	Schweinitz's Sedge	SR	E
<i>Carex tenax</i>	Wire Sedge	E	SR-P
<i>Carex trisperma</i>	Three-seeded Sedge	E	SR-P
<i>Carex vestita</i>	Velvet Sedge	SC-H	SR-P
<i>Carya laciniosa</i>	Big Shellbark Hickory	T	SR-P
<i>Carya myristiciformis</i>	Nutmeg Hickory	E	E
<i>Celastrus scandens</i>	American Bittersweet	E	SR-P
<i>Cetraria arenaria</i>	Sand-loving Iceland Lichen	SC-V	SR-P
<i>Chamaesyce cordifolia</i>	Heartleaf Sandmat	T	SR-P
<i>Chamerion platyphyllum</i>	Fireweed	E	SR-P
<i>Chasmanthium nitidum</i>	A Spanglegrass	T	SR-T
<i>Cheiloleiunea evansii</i>	A liverwort	SR	E
<i>Chelone cuthbertii</i>	Cuthbert's Turtlehead	T	SR-L
<i>Chenopodium simplex</i>	Giant-seed Goosefoot	SC-H	SR-P
<i>Chiloscyphus appalachianus</i>	A Liverwort	SC-V	SR-T
<i>Chiloscyphus muricatus</i>	A Liverwort	SC-V	SR-D
<i>Chrysoma pauciflosculosa</i>	Woody Goldenrod	E	E
<i>Cirsium carolinianum</i>	Carolina Thistle	E	SR-P
<i>Cirsium lecontei</i>	Leconte's Thistle	SC-V	SR-P
<i>Cladonia psoromica</i>	Bluff Mountain Reindeer Lichen	T	SR-L
<i>Clematis occidentalis</i>	Mountain Clematis	SC-V	SR-P
<i>Clinopodium georgianum</i>	Georgia Calamint	E	SR-P
<i>Coeloglossum viride</i> var. <i>virescens</i>	Long-bracted Frog Orchid	E	SR-P
<i>Coelorachis cylindrica</i>	Carolina Jointgrass	SC-H	SR-P
<i>Collinsonia tuberosa</i>	Piedmont Horsebalm	SC-V	SR-P
<i>Collinsonia verticillata</i>	Whorled Horsebalm	SC-V	SR-T
<i>Conioselinum chinense</i>	Hemlock-parsley	T	E
<i>Coptis trifolia</i> ssp. <i>groenlandica</i>	Goldthread	T	SR-P
<i>Cornus asperifolia</i>	Roughleaf Dogwood	E	SR-P
<i>Corydalis micrantha</i> ssp. <i>micrantha</i>	Slender Corydalis	T	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
<i>Crinum americanum</i>	Swamp-lily	SC-H	SR-P
<i>Crocanthemum bicknellii</i>	Plains Sunrose	SC-V	SR-P
<i>Crocanthemum carolinianum</i>	Carolina Sunrose	E	SR-P
<i>Crocanthemum corymbosum</i>	Pinebarren Sunrose	T	SR-P
<i>Crocanthemum georgianum</i>	Georgia Sunrose	E	SR-P
<i>Crocanthemum nashii</i>	Florida Scrub Frostweed	E	E
<i>Crocanthemum propinquum</i>	Creeping Sunrose	T	SR-P
<i>Crocanthemum rosmarinifolium</i>	Rosemary Sunrose	T	SR-P
<i>Croton monanthogynus</i>	Prairie-tea Croton	E	SR-P
<i>Cyperus dentatus</i>	Toothed Flatsedge	SC-H	SR-P
<i>Cyperus granitophilus</i>	Granite Flatsedge	T	SR-T
<i>Cyperus lecontei</i>	Leconte's Flatsedge	T	SR-P
<i>Cyperus tetragonus</i>	Four-angled Flatsedge	SC-V	SR-P
<i>Cystopteris tennesseensis</i>	Tennessee Bladder-fern	E	E-SC
<i>Dalibarda repens</i>	Robin Runaway	E	E
<i>Delphinium exaltatum</i>	Tall Larkspur	E	E-SC
<i>Deschampsia cespitosa</i> ssp. <i>glauca</i>	Tufted Hairgrass	T	SR-P
<i>Desmodium ochroleucum</i>	Creamy Tick-trefoil	SC-H	SR-T
<i>Desmodium sessilifolium</i>	Sessile Tick-trefoil	SC-H	SR-P
<i>Diarrhena americana</i>	Eastern Beakgrass	E	SR-P
<i>Dichanthelium aciculare</i> ssp. <i>neuranthum</i>	Nerved Witch Grass	SC-V	SR-D
<i>Dichanthelium caeruleum</i>	Blue Witch Grass	E	E
<i>Dichanthelium hirsutum</i>	Hirsut's Panic Grass	E	E
<i>Diervilla rivularis</i>	Riverbank Bush-honeysuckle	T	SR-T
<i>Dionaea muscipula</i>	Venus Flytrap	SC-V	SR-L, SC
<i>Dodecatheon meadia</i> var. <i>meadia</i>	Eastern Shooting-Star	T	SR-P
<i>Draba ramosissima</i>	Branching Draba	SC-V	SR-P
<i>Drepanolejeunea appalachiana</i>	A Liverwort	SC-V	SR-L
<i>Drosera filiformis</i>	Threadleaf Sundew	SC-V	SR-P
<i>Echinacea laevigata</i>	Smooth Coneflower	E	E-SC
<i>Echinacea purpurea</i>	Purple Coneflower	SC-V	SR-P
<i>Echinodorus tenellus</i>	Dwarf Burhead	E	SR-T
<i>Eleocharis cellulosa</i>	Gulfcoast Spikerush	E	SR-P
<i>Eleocharis elongata</i>	Florida Spikerush	E	SR-P
<i>Eleocharis halophila</i>	Saltmarsh Spikerush	SR	T
<i>Eleocharis robbinsii</i>	Robbins' Spikerush	SC-V	SR-P
<i>Eleocharis vivipara</i>	Viviparous Spikerush	E	SR-O
<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	Slender Wheatgrass	T	SR-P
<i>Elymus virginicus</i> var. <i>halophilus</i>	Terrell Grass	SC-V	SR-P
<i>Enemion biternatum</i>	Eastern Isopyrum	SC-V	SR-P
<i>Epidendrum magnoliae</i>	Green Fly Orchid	T	SR-P
<i>Eriocaulon aquaticum</i>	Seven-angled Pipewort	SC-V	SR-P
<i>Eriocaulon lineare</i>	Narrow Pipewort	SR	E
<i>Eriocaulon parkeri</i>	Estuary Pipewort	T	SR-T
<i>Eriocaulon texense</i>	Texas Hatpins	E	E
<i>Eriogonum tomentosum</i>	Southern Wild-buckwheat	SC-H	SR-P
<i>Erythrina herbacea</i>	Coralbean	E	SR-P
<i>Eupatorium leptophyllum</i>	Limesink Dog-fennel	E	SR-P
<i>Eupatorium paludicola</i>	Bay Boneset	T	SR-L
<i>Eupatorium resinosum</i>	Pine Barren Boneset	SR	T
<i>Euphorbia commutata</i>	Cliff Spurge	T	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
<i>Euphorbia mercurialina</i>	Cumberland Spurge	SC-V	SR-P
<i>Filipendula rubra</i>	Queen-of-the-prairie	E	E
<i>Fimbristylis perpusilla</i>	Harper's Fimbry	T	E
<i>Fleishcmannia incarnatum</i>	Pink Thoroughwort	T	SR-P
<i>Gaillardia aestivalis</i> var. <i>aestivalis</i>	Sandhills Gaillardia	E	SR-P
<i>Galactia mollis</i>	Soft Milk-pea	T	SR-P
<i>Gaylussacia brachycera</i>	Box Huckleberry	E	SR-D
<i>Gaylussacia nana</i>	Confederate Huckleberry	E	E
<i>Gelsemium rankinii</i>	Swamp Jessamine	SC-V	SR-P
<i>Gentiana alba</i>	Yellow Gentian	SC-H	SR-D
<i>Gentianopsis crinita</i>	Fringed Gentian	T	E-SC
<i>Geum aleppicum</i>	Yellow Avens	E	SR-P
<i>Geum geniculatum</i>	Bent Avens	SC-V	T
<i>Geum laciniatum</i> var. <i>trichocarpum</i>	Rough Avens	E	SR-P
<i>Geum lobatum</i>	Lobed Barren-strawberry	E	SR-T
<i>Geum radiatum</i>	Spreading Avens	E	E-SC
<i>Gillenia stipulata</i>	Indian Physic	T	SR-P
<i>Glyceria nubigena</i>	Smoky Mountain Mannagrass	SR	T
<i>Gratiola aurea</i>	Golden Hedge-hyssop	SC-V	SR-O
<i>Gymnocarpium appalachianum</i>	Appalachian Oak Fern	T	E
<i>Gymnoderma lineare</i>	Rock Gnome Lichen	E	E
<i>Hasteola suaveolens</i>	Sweet Indian-plantain	SC-H	SR-T
<i>Helenium brevifolium</i>	Littleleaf Sneezeweed	E	E
<i>Helenium vernale</i>	Spring Sneezeweed	E	E
<i>Helianthus floridanus</i>	Florida Sunflower	T	E
<i>Helianthus laevis</i>	Smooth Sunflower	SC-V	SR-P
<i>Helianthus occidentalis</i> var. <i>dowellianus</i>	Few-leaf Sunflower	SC-H	SR-P
<i>Helianthus schweinitzii</i>	Schweinitz's Sunflower	E	E
<i>Helonias bullata</i>	Swamp Pink	T	T-SC
<i>Hexastylis contracta</i>	Mountain Heartleaf	E	E
<i>Hexastylis naniflora</i>	Dwarf-flowered Heartleaf	T	T
<i>Hexastylis rhombiformis</i>	French Broad Heartleaf	SR	T
<i>Hibiscus aculeatus</i>	Comfortroot	T	SR-P
<i>Hierochloa odorata</i>	Holy Grass	SR	E
<i>Houstonia montana</i>	Roan Mountain Bluet	E	E
<i>Hudsonia montana</i>	Mountain Golden-heather	T	T
<i>Hudsonia tomentosa</i>	Sand Heather	T	SR-P
<i>Hydrastis canadensis</i>	Goldenseal	SR	E
<i>Hymenocallis occidentalis</i>	Hillside Spider-lily	SC-H	SR-P
<i>Hymenocallis pygmaea</i>	Waccamaw River Spiderlily	T	SR-L
<i>Hymenophyllum tayloriae</i>	Gorge Filmy Fern	SR	E
<i>Hypericum adpressum</i>	Bog St. John's-wort	SC-H	SR-T
<i>Hypericum brachyphyllum</i>	Coastal Plain St. John's-wort	SC-V	SR-P
<i>Hypericum fasciculatum</i>	Peelbark St. John's-wort	E	SR-D
<i>Hypericum suffruticosum</i>	Pineland St. John's-wort	SC-H	SR-P
<i>Ilex collina</i>	Long-stalked Holly	SC-V	T
<i>Ipomoea imperati</i>	Beach Morning-glory	T	SR-P
<i>Isoetes microvela</i>	Thin-wall Quillwort	T	E
<i>Isoetes piedmontana</i>	Piedmont Quillwort	E	T
<i>Isotria medeoloides</i>	Small Whorled Pogonia	T	T
<i>Iva microcephala</i>	Small-headed Marsh Elder	T	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
<i>Jeffersonia diphylla</i>	Twinleaf	T	SR-P
<i>Juncus caesariensis</i>	New Jersey Rush	E	E
<i>Juncus trifidus</i>	Highland Rush	SR	E
<i>Juniperus communis</i> var. <i>depressa</i>	Dwarf Juniper	SC-V	SR-D
<i>Kalmia angustifolia</i>	Sheep-laurel	T	SR-P
<i>Lachnocaulon minus</i>	Brown Bogbutton	T	SR-P
<i>Lechea maritima</i> var. <i>virginica</i>	Maritime Pinweed	E	SR-T
<i>Lechea torreyi</i>	Torrey's Pinweed	E	SR-P
<i>Lejeunea blomquistii</i>	A Liverwort	SC-V	SR-L
<i>Leptochloa fascicularis</i> var. <i>maritima</i>	Long-awned Spangletop	E	SR-O
<i>Liatris aspera</i>	Rough Blazing-star	T	SR-P
<i>Liatris helleri</i>	Heller's Blazing-star	T	T-SC
<i>Liatris microcephala</i>	Small-head Blazing-star	SC-V	SR-P
<i>Lilaeopsis carolinensis</i>	Carolina Grasswort	SR	T
<i>Lilium canadense</i> ssp. <i>canadense</i>	Yellow Canada Lily	E	SR-P
<i>Lilium canadense</i> ssp. <i>editorum</i>	Red Canada Lily	E	SR-P
<i>Lilium grayi</i>	Gray's Lily	T	T-SC
<i>Lilium philadelphicum</i> var. <i>philadelphicum</i>	Wood Lily	E	SR-P
<i>Lilium pyrophilum</i>	Sandhills Lily	E	E-SC
<i>Limosella australis</i>	Awl-leaf Mudwort	T	SR-P
<i>Lindera melissifolia</i>	Pondberry	E	E
<i>Lindera subcoriacea</i>	Bog Spicebush	SR	T
<i>Linum floridanum</i> var. <i>chrysocarpum</i>	Yellow-fruited Flax	T	SR-T
<i>Linum sulcatum</i> var. <i>sulcatum</i>	Glade Flax	SC-H	SR-P
<i>Liparis loeselii</i>	Fen Orchid	E	SR-P
<i>Lipocarpa micrantha</i>	Small-flowered Hemicarpha	SC-H	E
<i>Lithospermum canescens</i>	Hoary Puccoon	T	SR-P
<i>Litsea aestivalis</i>	Pondspice	SC-V	SR-T
<i>Lobelia boykinii</i>	Boykin's Lobelia	E	T
<i>Lophiola aurea</i>	Golden-crest	E	E
<i>Lotus helleri</i>	Carolina Birdfoot-trefoil	SC-V	SR-T
<i>Ludwigia lanceolata</i>	Lanceleaf Seedbox	E	SR-P
<i>Ludwigia linifolia</i>	Flaxleaf Seedbox	T	SR-P
<i>Ludwigia ravenii</i>	Raven's Seedbox	T	SR-T
<i>Ludwigia sphaerocarpa</i>	Globe-fruit Seedbox	E	SR-P
<i>Ludwigia suffruticosa</i>	Shrubby Seedbox	T	SR-P
<i>Lysimachia asperulifolia</i>	Rough-leaf Loosestrife	E	E
<i>Lysimachia fraseri</i>	Fraser's Loosestrife	E	E
<i>Macbridea caroliniana</i>	Carolina Bogmint	E	T
<i>Magnolia macrophylla</i>	Bigleaf Magnolia	T	SR-P
<i>Malaxis spicata</i>	Florida Adder's-mouth	SC-V	SR-P
<i>Marshallia grandiflora</i>	Large-flowered Barbara's-buttons	SC-H	SR-T
<i>Marshallia trinervia</i>	Broadleaf Barbara's-buttons	SC-H	SR-P
<i>Melica nitens</i>	Three-flowered Melic	E	SR-P
<i>Menyanthes trifoliata</i>	Buckbean	T	T
<i>Micranthes pensylvanica</i>	Swamp Saxifrage	E	SR-P
<i>Micropolypodium nimbata</i>	West Indian Dwarf Polypody	T	E
<i>Minuartia godfreyi</i>	Godfrey's Sandwort	E	E
<i>Minuartia groenlandica</i>	Greenland Sandwort	T	SR-D
<i>Minuartia uniflora</i>	Single-flowered Sandwort	E	E

Scientific name	Common Name	Proposed Status	Current State Status
<i>Monotropsis odorata</i>	Sweet Pinesap	SC-V	SR-T
<i>Muhlenbergia glomerata</i>	Spiked Muhly	SC-V	SR-P
<i>Muhlenbergia sobolifera</i>	Rock Muhly	SC-V	SR-P
<i>Muhlenbergia torreyana</i>	Pinebarren Smokegrass	SC-V	E
<i>Myrica gale</i>	Sweet Gale	E	E
<i>Myriophyllum laxum</i>	Loose Water-milfoil	E	T
<i>Myriophyllum tenellum</i>	Leafless Water-milfoil	E	SR-P
<i>Narthecium americanum</i>	Bog Asphodel	SR	E
<i>Narthecium montanum</i>	Appalachian Yellow Asphodel	SC-H	SR-L
<i>Oenothera perennis</i>	Perennial Sundrops	SC-V	SR-P
<i>Oldenlandia boscii</i>	Bosc's Bluet	E	SR-P
<i>Orbexilum macrophyllum</i>	Bigleaf Scurfpea	SC-H	E
<i>Orbexilum onobrychis</i>	Lanceleaf Scurfpea	SC-H	SR-T
<i>Orthotrichum keeverae</i>	Keever's Bristle-moss	SR	E
<i>Oxypolis canbyi</i>	Canby's Dropwort	E	E
<i>Pachysandra procumbens</i>	Allegheny Spurge	E	SR-P
<i>Packera millefolium</i>	Divided-leaf Ragwort	T	T
<i>Packera paupercula</i> var. <i>appalachiana</i>	Prairie Ragwort	T	SR-P
<i>Packera schweinitziana</i> (= <i>Senecio schweinitzianus</i> )	Schweinitz's Ragwort	T	E
<i>Panicum flexile</i>	Wiry Panic Grass	T	SR-P
<i>Parietaria praetermissa</i>	Large-seed Pellitory	SC-V	SR-P
<i>Parnassia caroliniana</i>	Carolina Grass-of-parnassus	T	E
<i>Parnassia grandifolia</i>	Large-leaved Grass-of-parnassus	T	T
<i>Paronychia herniarioides</i>	Michaux's Whitlow-wort	E	E
<i>Paspalum dissectum</i>	Mudbank Crown Grass	E	SR-P
<i>Pedicularis lanceolata</i>	Swamp Lousewort	T	SR-P
<i>Pellaea wrightiana</i>	Wright's Cliff-brake	E	E-SC
<i>Persicaria hirsuta</i>	Hairy Smartweed	E	SR-P
<i>Phacelia maculata</i>	Spotted Phacelia	E	SR-P
<i>Phegopteris connectilis</i>	Northern Beech Fern	E	SR-P
<i>Phemeranthus</i> sp. 1 (= <i>Talinum mengesii</i> )	Large-flowered fameflower	SR	E
<i>Pinguicula pumila</i>	Small Butterwort	E	SR-P
<i>Pityopsis graminifolia</i> var. <i>graminifolia</i>	A Silkgrass	E	SR-P
<i>Plantago cordata</i>	Heart-leaf Plantain	E	E
<i>Plantago sparsiflora</i>	Pineland Plantain	T	E
<i>Platanthera grandiflora</i>	Large Purple-fringed Orchid	T	SR-P
<i>Platanthera integra</i>	Yellow Fringeless Orchid	SC-V	T
<i>Platanthera integrilabia</i>	White Fringeless Orchid	SC-H	E
<i>Platanthera nivea</i>	Snowy Orchid	T	T
<i>Platanthera peramoena</i>	Purple Fringeless Orchid	T	SR-P
<i>Poa saltuensis</i>	A Bluegrass	T	SR-P
<i>Poa paludigena</i>	Bog Bluegrass	SR	E
<i>Polemonium reptans</i> var. <i>reptans</i>	Jacob's Ladder	T	SR-P
<i>Polygala hookeri</i>	Hooker's Milkwort	SC-V	SR-T
<i>Polygonella articulata</i>	Coast Jointweed	SC-H	SR-P
<i>Polygonum glaucum</i>	Seabeach Knotweed	E	SR-T
<i>Ponthieva racemosa</i>	Shadow-witch	T	SR-P
<i>Portulaca smallii</i>	Small's Portulaca	T	T
<i>Prenanthes alba</i>	White Rattlesnakeroot	T	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
<i>Pteroglossaspis ecristata</i>	Spiked Medusa	E	E
<i>Ptilimnium costatum</i>	Ribbed Bishop-weed	T	SR-P
<i>Ptilimnium nodosum</i>	Harperella	E	E
<i>Pyrola elliptica</i>	Elliptic Shinleaf	SC-H	SR-P
<i>Pyxidanthra brevifolia</i>	Sandhills Pyxie-moss	SR	E
<i>Quercus ilicifolia</i>	Bear Oak	E	T
<i>Quercus prinoides</i>	Dwarf Chinquapin Oak	E	SR-P
<i>Ranunculus ambigens</i>	Water-plantain Spearwort	SC-H	SR-P
<i>Ranunculus flabellaris</i>	Yellow Water-crowfoot	SC-H	SR-P
<i>Ranunculus hederaceus</i>	Ivy Buttercup	SC-H	SR-D
<i>Rhexia aristosa</i>	Awned Meadow-beauty	SC-V	T
<i>Rhodiola rosea</i>	Roseroot (=Sedum rosea)	E	E
<i>Rhododendron prinophyllum</i>	Election Pink	T	SR-P
<i>Rhus michauxii</i>	Michaux's Sumac	E	E-SC
<i>Rhynchospora crinipes</i>	Alabama Beaksedge	T	E
<i>Rhynchospora decurrens</i>	Swamp Forest Beaksedge	T	SR-P
<i>Rhynchospora harperi</i>	Harper's Beaksedge	SC-V	SR-P
<i>Rhynchospora macra</i>	Southern White Beaksedge	T	E
<i>Rhynchospora odorata</i>	Fragrant Beaksedge	SC-V	E
<i>Rhynchospora pleiantha</i>	Coastal Beaksedge	T	T
<i>Rhynchospora thornei</i>	Thorne's Beaksedge	SC-V	E
<i>Rhynchospora tracyi</i>	Tracy's Beaksedge	T	SR-P
<i>Rubus idaeus ssp. strigosus</i>	Red Raspberry	T	SR-P
<i>Rudbeckia heliopsidis</i>	Sun-facing Coneflower	SC-H	E
<i>Ruellia ciliosa</i>	Sandhills Wild-petunia	T	SR-P
<i>Ruellia humilis</i>	Low Wild-petunia	E	T
<i>Ruellia purshiana</i>	Pursh's Wild-petunia	SC-V	SR-O
<i>Ruellia strepens</i>	Limestone Wild-petunia	E	SR-P
<i>Rugelia nudicaulis</i>	Rugel's Ragwort	SR	T
<i>Sabal palmetto</i>	Cabbage Palm	T	SR-P
<i>Sabatia kennedyana</i>	Plymouth Gentian	T	T-SC
<i>Sageretia minutiflora</i>	Small-flowered Buckthorn	T	SR-P
<i>Sagittaria chapmanii</i>	Chapman's Arrowhead	E	SR-P
<i>Sagittaria fasciculata</i>	Bunched Arrowhead	E	E
<i>Sagittaria isoetiformis</i>	Quillwort Arrowhead	T	SR-P
<i>Sagittaria macrocarpa</i>	Streamhead Sagittaria	T	SR-L
<i>Sagittaria weatherbiana</i>	Grassleaf Arrowhead	E	SR-T
<i>Sarracenia jonesii</i>	Mountain Sweet Pitcher Plant	E	E-SC
<i>Sarracenia minor</i>	Hooded Pitcher Plant	E	T
<i>Sarracenia oreophila</i>	Green Pitcher Plant	E	E-SC
<i>Sceptridium jenmanii</i>	Alabama Grape-fern	SC-V	SR-P
<i>Schisandra glabra</i>	Magnolia Vine	T	T-SC
<i>Schlotheimia lancifolia</i>	Highlands Moss	SR	T
<i>Schwalbea americana</i>	Chaffseed	E	E
<i>Scirpus flaccidifolius</i>	Reclining Bulrush	E	E
<i>Scirpus lineatus</i>	Drooping Bulrush	T	SR-P
<i>Scleria baldwinii</i>	Baldwin's Nutrush	T	SR-P
<i>Scleria reticularis</i>	Netted Nutrush	T	SR-O
<i>Scutellaria australis</i>	Southern Skullcap	E	SR-P
<i>Scutellaria galericulata</i>	Hooded Skullcap	SC-H	SR-P
<i>Scutellaria leonardii</i>	Shale-barren Skullcap	E	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
<i>Scutellaria nervosa</i>	Veined Skullcap	E	SR-P
<i>Sebastiania fruticosa</i>	Sebastian-bush	SC-V	SR-T
<i>Sedum pusillum</i>	Puck's Orpine	E	E
<i>Seymeria pectinata</i>	Sticky Afzelia	SC-H	SR-P
<i>Shortia galacifolia</i> var. <i>brevistyla</i>	Northern Oconee Bells	E	E-SC
<i>Shortia galacifolia</i> var. <i>galacifolia</i>	Southern Oconee Bells	SC-V	E-SC
<i>Sideroxylon tenax</i>	Tough Bumelia	T	SR-P
<i>Silene ovata</i>	Mountain Catchfly	SC-V	SR-T
<i>Silphium connatum</i>	Virginia Cup-plant	SC-V	SR-T
<i>Silphium perfoliatum</i>	Northern Cup-plant	T	SR-P
<i>Sisyrinchium dichotomum</i>	White Irisette	E	E
<i>Solidago leavenworthii</i>	Leavenworth's Goldenrod	T	SR-P
<i>Solidago plumosa</i>	Yadkin River Goldenrod	T	E
<i>Solidago ptarmicoides</i>	Prairie Goldenrod	E	E
<i>Solidago radula</i>	Western Rough Goldenrod	E	SR-P
<i>Solidago rigida</i> var. <i>rigida</i>	Southeastern Bold Goldenrod	T	SR-P
<i>Solidago spithamea</i>	Blue Ridge Goldenrod	T	T
<i>Solidago tortifolia</i>	Twisted-leaf Goldenrod	E	SR-P
<i>Solidago verna</i>	Spring-flowering Goldenrod	SR	T
<i>Solidago villosicarpa</i>	Coastal Goldenrod	E	E
<i>Sparganium emersum</i>	Greenfruit Bur-reed	T	SR-P
<i>Spartina pectinata</i>	Freshwater Cordgrass	SC-V	SR-P
<i>Sphagnum contortum</i>	A Peatmoss	T	SR-D
<i>Sphagnum fuscum</i>	Brown Peatmoss	SR	E
<i>Sphenolobopsis pearsonii</i>	A liverwort	SR	E
<i>Spigelia marilandica</i>	Pink-root	T	E
<i>Spiraea corymbosa</i>	Shinyleaf Meadowsweet	E	SR-O
<i>Spiraea virginiana</i>	Virginia Spiraea	T	T
<i>Spiranthes eatonii</i>	Eaton's Ladies'-tresses	E	SR-L
<i>Spiranthes lacera</i> var. <i>lacera</i>	Northern Slender Ladies'-tresses	SC-H	SR-D
<i>Spiranthes laciniata</i>	Lace-lip Ladies'-tresses	SC-V	SR-P
<i>Spiranthes longilabris</i>	Giant Spiral Orchid	E	T
<i>Spiranthes lucida</i>	Shining Ladies'-tresses	E	SR-O
<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses	T	SR-P
<i>Sporobolus heterolepis</i>	Prairie Dropseed	T	E
<i>Sporobolus teretifolius</i>	Wireleaf Dropseed	T	T
<i>Sporobolus virginicus</i>	Saltmarsh Dropseed	T	SR-P
<i>Stenanthium gramineum</i> var. <i>robustum</i>	Bog Featherbells	T	SR-P
<i>Stenanthium leimanthoides</i>	Pinebarren Death-camas	T	SR-O
<i>Streptopus amplexifolius</i>	White Mandarin	SC-V	SR-P
<i>Stylisma aquatica</i>	Water Dawnflower	E	SR-P
<i>Stylisma pickeringii</i> var. <i>pickeringii</i>	Pickering's Dawnflower	SC-V	E
<i>Symphyotrichum depauperatum</i>	Serpentine Aster	E	SR-D
<i>Symphyotrichum georgianum</i> (= <i>Aster georgianus</i> )	Georgia Aster	T	T
<i>Symphyotrichum laeve</i> var. <i>concinnum</i>	Narrow-leaf Aster	T	SR-P
<i>Symphyotrichum oblongifolium</i>	Aromatic Aster	T	SR-P
<i>Symphyotrichum rhiannon</i>	Buck Creek Aster	T	SR-L
<i>Synandra hispidula</i>	Synandra	SC-H	SR-T
<i>Taxus canadensis</i>	Canada Yew	T	SR-P

Scientific name	Common Name	Proposed Status	Current State Status
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<i>Thalictrum cooley</i>	Cooley's Meadowrue	E	E
<i>Thaspium pinnatifidum</i>	Mountain Thaspium	T	SR-T
<i>Thelypteris simulata</i>	Bog Fern	E	T
<i>Thermopsis fraxinifolia</i>	Ash-leaved Golden-banner	SC-V	SR-T
<i>Thermopsis mollis</i>	Appalachian Golden-banner	SC-V	SR-P
<i>Tortula ammonsiana</i>	Ammon's Tortula	SR	E
<i>Tradescantia virginiana</i>	Virginia Spiderwort	T	SR-P
<i>Triantha glutinosa</i>	Sticky Bog Asphodel	SC-V	SR-P
<i>Trichomanes boschianum</i>	Appalachian Filmy-fern	E	T
<i>Trichomanes petersii</i>	Dwarf Filmy-fern	SR	T
<i>Trichostema brachiatum</i>	Glade Bluecurls	E	SR-P
<i>Tridens ambiguus</i>	Pineland Triodia	E	E
<i>Tridens chapmanii</i>	Chapman's Redtop	T	SR-P
<i>Tridens strictus</i>	Spike Triodia	SC-H	SR-P
<i>Trientalis borealis</i>	Starflower	E	SR-P
<i>Trifolium carolinianum</i>	Carolina Clover	SC-H	SR-O
<i>Trifolium reflexum</i>	Buffalo Clover	T	SR-T
<i>Trillium discolor</i>	Mottled Trillium	T	T
<i>Trillium flexipes</i>	Bent White Trillium	SC-H	SR-P
<i>Trillium pusillum</i> var. <i>ozarkanum</i>	Alabama Least Trillium	E	E
<i>Trillium pusillum</i> var. <i>pusillum</i>	Carolina Least Trillium	E	E
<i>Trillium pusillum</i> var. <i>virginianum</i>	Virginia Least Trillium	E	E
<i>Trillium sessile</i>	Sessile-flowered Trillium	T	SR-P
<i>Trillium simile</i>	Sweet White Trillium	T	SR-L
<i>Trisetum spicatum</i>	Soft Trisetum	SC-H	E
<i>Turritis glabra</i>	Tower-mustard	E	SR-P
<i>Urtica chamaedryoides</i>	Dwarf Stinging Nettle	E	SR-P
<i>Utricularia cornuta</i>	Horned Bladderwort	T	SR-P
<i>Utricularia geminiscapa</i>	Two-flowered Bladderwort	SC-V	SR-P
<i>Utricularia minor</i>	Small Bladderwort	SC-H	SR-D
<i>Utricularia olivacea</i>	Dwarf Bladderwort	T	T
<i>Utricularia resupinata</i>	Northeastern Bladderwort	E	E
<i>Vaccinium macrocarpon</i>	Cranberry	T	SR-P
<i>Veratrum woodii</i>	Ozark Bunchflower	T	SR-P
<i>Verbena riparia</i>	Riverbank Vervain	SC-H	SR-T
<i>Veronica americana</i>	American Speedwell	T	SR-P
<i>Viola appalachiensis</i>	Appalachian Violet	SC-V	SR-T
<i>Warea cuneifolia</i>	Carolina Pineland-cress	E	E
<i>Woodsia ilvensis</i>	Rusty Cliff Fern	E	SR-P
<i>Xyris chapmanii</i>	Chapman's Yellow-eyed-grass	SC-V	SR-T
<i>Xyris difformis</i> var. <i>floridana</i>	Florida Yellow-eyed-grass	T	SR-P
<i>Xyris scabrifolia</i>	Harper's Yellow-eyed-grass	SC-V	SR-T
<i>Xyris serotina</i>	Acid-swamp Yellow-eyed-grass	T	SR-P
<i>Xyris stricta</i>	Pineland Yellow-eyed-grass	E	SR-P
<i>Zephyranthes simpsonii</i>	Rain Lily	E	E

# *North Carolina Native Plant Society*

## *The Year In Review*





## *In Memoriam*

### *Millie Blaha*

Brevard - Mildred Caroline Millie Labahn Blaha died Wednesday, July 2, 2008, at her residence.

A native of Blue Island, Ill., she was the daughter of the late Frederick and Hedwig Labahn. She is also preceded in death by her husband, George W. Blaha, who died in 1988.

Millie Blaha touched many lives through her weekly column Nature Notebook, which appeared in the Transylvania Times newspaper for 17 years; through her monthly column, Nature Walk, which appeared in Hendersonville's Prime Times newspaper; through her six years of teaching nature classes and nature photography in the Continuing Education program at Blue Ridge Community College; through her many color slide presentations, which focused on the world of nature and conservation; through her weekly appearances with John Sarpy's Green Thumbs program on radio station WSQL; through her volunteer work, which resulted in the Jackson Park Wetlands in Henderson County and the Mud Creek Wetlands being placed on the North Carolina Registry of Natural Areas; and through her work which resulted in the beginning of the Herbarium at the Carl Sandburg Home National Historic Site. A dozen Botanical, Nature Societies and the Nature Conservancy have honored her with Life Memberships.

### **Membership**

Total Number of Members:	366
(additional 136 delinquent)	
Life Members:	63
Institutional and Complimentary:	31

### **Board Actions**

#### **Grants and Awards**

Cullowhee Scholarships:	\$1,400 (4 full scholarships)
NC Botanical Garden:	\$1,000
BW Wells Fund	\$500
NC Museum of Natural Sciences	\$1,000
Shinn Grants to 4 projects	\$2,300
Blomquist Native Plant Garden	\$1,000
Halyburton Park, Wilmington	\$300.00

Welcomed Dr. Larry Mellichamp from Charlotte to the Board.

Approved the addition of the Uwharrie Chapter to the NCNPS, with Gordon Knowles as Chapter Chair.

Approved the purchase of digital projectors for chapters of the Society.

Printed new membership brochures.

Membership directories will be printed to go out with renewal notices.

Approved the creation of Member Awards to be presented at the Annual Meeting each year.

Approved addition of a Private Garden category to the Awards program.

Approved ads for the journal and newsletter.

Approved formation of a Task Force to study the feasibility of a Native Plant Certificate program. Larry Mellichamp and Jean Woods will lead the committee.

Welcomed Terry Britton as webmaster with a \$500 stipend.

Approved placing functional Membership Applications and Meeting Registration forms on the website.

Welcomed Tracy Rush to the board as chair of the new Moore County chapter.

Announced the election of Tom Harville, Mark Rose, and Kathy Schlosser to the Friends of the Plant Conservation Program board.

#### **Society Field Trips**

May: Toe River Event with Dr. Stewart Skeate and Robyn Fletcher as speakers.

June: Annual Meeting of Members and Picnic at Hagan Stone Park. Dr. Larry Mellichamp presented a seed-starting workshop.

October: Lake Waccamaw and Myrtle Head Savannah. Janice Allen (Coastal Land Trust) and Rob Evans (Plant Conservation Program) presented evening programs.

Many additional trips were available through each of the chapters of the Society.

### **2008 Summary of Talks and Educational events**

<b><u>Group</u></b>	<b><u>Talk</u></b>	<b><u>No. attendees</u></b>
Guilford Horticulture Society	Landscaping with Natives	64
Holly Springs Library	Landscaping with Natives	21
Guilford County Master Gardeners	Wildflowers	30
NC NPS Charlotte Chapter	Propagation workshop	16
NC NPS Charlotte Chapter	Lead walk at Redlair Farm	20
Catawba Lands Conservancy Event	Lead walk at Catawba Wildflower Glen	12
Southern Appalachian Landscape Seminar	Georgia Native Plants for Landscape	100
Baltimore Orchid Society	Native Orchids	70
Richmond Orchid Society	Native Orchids	55
Cabarrus Home and Garden Show	Maintenance of Native Plants and soil stewardship	20
Garden Club Concord	Landscaping with Native Plants	14
Garden Club Charlotte	Landscaping with Native Plants	8
Southern Living Show	Landscaping with Native Plants	50
Council of Garden Clubs	Landscaping with Native Plants	20
Sierra Club "Green Charlotte"	Landscaping with Native Plants	18
Mecklenburg Master Gardeners	Using Native Plants in the Garden	15
Crosland landscapers	Using and Maintaining Native Plants	10

### **Exhibits around the state:**

Cabarrus Home and Garden Show  
Kannapolis Master Gardeners Event  
Lily Fest  
NC State Fair

## *2009 Calendar of Events*

### Member Events:

May 1-3, 2009	Spring Field Trip to South Mountains/Stoney Creek Area
June 13, 2009	Annual Summer Picnic and meeting of members
October 2-4, 2009	Fall Field Trip (details TBA)

### Board of Directors Meetings:

February 28  
May 17  
August 22  
November 21

Please check the website for additional activities, Chapter events, and field trip details:

**[www.ncwildflower.org](http://www.ncwildflower.org)**

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