

Friends of Plant Conservation

Field Notes

NEWSLETTER OF THE FRIENDS OF PLANT CONSERVATION

VOL. IV, ISSUE 1, FEBRUARY 2012

SUPPORT GROUP OF THE
NC PLANT CONSERVATION PROGRAM
NC DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES
RALEIGH, NC

2011 ANNUAL MEETING REPORT

A hearty welcome
to new FoPC
President,
Paul Hosier,
who has been
serving as our Vice
President.

Outgoing
President,
Bruce Williams,
who saw the FoPC
through its first
three years, will
remain on the
board as
immediate past
president.



George Briggs



Mike Kunz and Cecil Frost



Paul Hosier

Following a welcome from Peter White and Gene Cross, who brought greetings from Steve Troxler, George Briggs, Executive Director of the N.C. Arboretum in Asheville, inspired Friends of Plant Conservation members at the 2011 Annual Meeting with his address "The Art of Stewardship: Conservation for the Common Good."



Also addressing the group were Rob Evans, with an update from NCPCP; Lesley Starke on Preserve Stewards and the Status of Venus flytraps; and Cecil Frost, Tom Fanslow, Mike Kunz, and Rob Evans on The Science of Stewardship: The Elusive *Sagittaria fasciculata*.

Paul Hosier, in-coming FoPC President, conducted an open discussion on the topic "Plant Conservation in Difficult Economic Times – how do we go about creating resources to advance plant conservation?" Comments from the membership were recorded and are being studied by the board of directors.

Of great pleasure for all was the opportunity to recognize those who were responsible for the creation of the NC Plant Conservation Program: Al Elder, Neill Lapp, Howard Singletary, and Ritchie Bell.

Continued on page 3....

December 2011



Board of Directors

Paul Hosier, President
hosier@uncw.edu

Katherine Schlosser, Vice President
kathyschlosser@triad.rr.com

Camille B. Collins, Secretary
camilleroose22@gmail.com

Kurt Schlimme, Treasurer
kurt@enoriver.org

Mark Rose, Policy & Gov.
trilliumboy@yahoo.com

Dale Batchelor, Membership
dale@gardenerbynature.com

Mike Kunz, Resource Dev.
mkunz@email.unc.edu

Andy Wood, Education, Program
awood@audubon.org

Jean Woods, Education, Program
jean14424@aol.com

Bob Shepherd
shepb@bellsouth.net

C. Bruce Williams
cbw.3@earthlink.net

Janet Bracey Gray
Janet.bracey.gray@us.army.mil

Advisors

Rob Evans, Coordinator
Plant Conservation Program

Lesley Starke
Research Specialist

Gene Cross, Director, NCDA&CS,
Plant Industry Division

Nancy Stewart
Information Processing Technician
and Ginseng Coordinator

From The President



The major task of the Friends of Plant Conservation is to aid North Carolina's Plant Conservation Program in sustaining the state's 419 imperiled plant species in their natural habitats. It is not enough to "know" where these plants occur in the state, but to assure, in a long-term sense, that these plants will be maintained in their native habitats. Recognizing that it is essential to secure lands which support imperiled plants, the Friends of Plant Conservation has established a Land & Stewardship Fund. This fund provides the opportunity for individuals to help assure that North Carolina provides proactive stewardship of its imperiled plants, by allowing citizens to directly contribute resources for the purchase and maintenance of "rare plants and unique habitats."

Existing Plant Conservation Preserves have been funded largely with state funds. However, we all know that state funds are increasingly limited and even under the best circumstances, the ability to provide matching resources helps leverage greater benefits. Even small amounts of funding can fill critical gaps in projects by covering land-related expenses necessary to secure new imperiled plant populations or expand existing Preserves. For example, a recent donation kick-started the process of acquiring a unique mountain bog, featuring mountain sweet pitcher plants and other notable rarities, by covering the cost of a real estate appraisal.

The multiplier effect is an important aspect of this fund. While large contributions are important and necessary, contributions made by many individuals offering an amount that they are comfortable donating create opportunities to assure today's imperiled plants will have a habitat in which to thrive in perpetuity.

Won't you join your friends in contributing to the Land & Stewardship Fund? Send a check made to Friends of Plant Conservation with Land & Stewardship Fund in the "For" line and mail to 1060 Mail Service Center, Raleigh, NC 27699-1060 or call me at (910) 962 2642 for additional information.

Paul Hosier

Photos from the Annual meeting



Misty Buchanan, Richard LeBlond, Cecil Frost



Andy Woods talks with out-going President, Bruce Williams



Lynda Waldrep, Ken Bridle, Tom Harville



Al Elder and Bruce Williams

News from the Board

Board Meeting Highlights

The first FOPC board meeting on the year was held Thursday, February 2nd in Troy, North Carolina at the Uwharrie Retreat and Conference Center. The Board meeting was held in conjunction with a Board retreat held on Wednesday evening, February 1st and Thursday morning, February 2nd.

Increasing membership and funds available to support the Plant Conservation Program were two main topics of Board discussion. We agreed to encourage members to increase awareness of FOPC, recruit new members to the organization, and participate in future fundraising activities. The Board decided to extend our membership to include affiliate organizations and will soon contact several land trust associations.

We reviewed and considered the upcoming guided tour schedule (noted elsewhere in this newsletter) and partnering with other organizations to put on these events. Members of the partnering organization can attend for free, but participants not affiliated with a partner or not members of FOPC will be asked to pay \$10 for each event.

Lastly, the board approved revisions to the 2005 bylaws, including a change in the number of Board Directors from 11 to range from 3 to 15.

Please feel free to contact me at Camilleroose22@gmail.com if you would like further information or a copy of the Minutes once they are approved by the Board.

Camille Brescain Collins
Secretary



A few board members relax in the Uwharries before tackling business

Message from the Membership Committee

Our thanks go to everyone who has renewed their Friends of Plant Conservation membership for 2012. With your help, our young organization has accomplished quite a bit to aid Plant Conservation Program staff and increase awareness of the work they're doing.

While we are proud of FoPC achievements such as the Site Preserve Steward Program, we are constantly confronted with other needs and opportunities to support rare plants and habitat conservation that we cannot fulfill unless our organization's numbers increase.

In 2012 we hope each of you will not only renew for another year, but also consider asking even one person you know who supports the preservation of North Carolina's unique heritage of rare plants and special places to join us. Give them a copy of your newsletter, or send them to our website (<http://ncplantfriends.org>). We think the sights and stories from our Preserves will do the rest.

We'll keep you informed on how the membership drive is coming in upcoming newsletters.

Dale Batchelor, Chair
Membership Committee



Rob Evans, Andy Wood, Camille Collins, Mark Rose

Cedar Cliff Mountain Preserve

On October 15, 2011, Jean Woods and Joe Hamrick visited the Cedar Cliff Mountain Preserve. The only access to the site that we found was an old road with an iron gate guarding it. Due to the steepness of the site, there appears to be no other access from the paved road. On the map we saw roads to the northwest of the site and we explored those. Those roads are dirt and in bad shape. We plan to take our truck on a subsequent trip to explore other access to the site, if it is on land that the owner will let us cross.

Views approaching:



View from on the old road, inside the gate:



STEWARDS CORNER *CONTINUED*

Site Condition:

Except for a little Japanese honeysuckle near the gate, we did not find any invasive species. Once off the main road, we saw no trash. The old road is quite steep and only goes up so far and then a path continues which is straight up: no switch backs. The pictures below do not accurately show the steepness. We saw no signs or cut survey lines. The site is dry with no streams and heavily wooded. We saw oak (lots of chestnut oak as would be expected on a dry site), hickory, poplar, beech, white pine, sour wood, sweet gum, young chestnuts, dogwood in the understory. We also saw at least 3 different species of ferns, yellow headed coneflower, and several types of purple asters. For our next visit, we plan to start a species list and accurately identify the various species.



We reached the crest between the two ridges and walked an old path to near the rock face. The path is in very bad shape near the rock face and is along a very steep slope. We turned around at this point. At the point where the path becomes so rugged, there are 2 ropes tied to trees that may have at one time attempted to "rope off" access. We were not sure why they were there. From this vantage point we could see the Tuckasegee River.



While near the top, we were joined by 2 hikers, a student from Cullowhee and his girl friend. We talked with them and found out that students sometimes come over from Western Carolina to hike the old road to the rock face. These two hikers had no idea that this was a preserve and there is no signage anywhere to indicate this. We did tell them about the preserve and the restrictions, though, at that point we saw no reason to ask them to leave, since the site is not marked.



Jean Woods and Joe Hamrick
Cedar Cliff Stewards

From a Steward's Report recently sent to Rob:

At Hebron, the American Hazelnut, *Corylus americana*, shrubs near the old house were blooming. The male catkins have been out for several months, but the red female flowers are blooming now. That is about 2 weeks earlier than we have seen them the last several years. There are actually several good size colonies of hazelnut in the thickets near the old house. We have attached a photo of the male and female flowers that we took last year near our house. [the photos appear to the right—see especially the enlargement of the flower at the bottom.]

Herb further explains that “even though the flowers at Hebron are virtually identical to those in the photos, I don't want to misrepresent them. “ Again, the photos in this article were taken last year at a different location.

The American hazelnuts at Hebron are noteworthy in that they have been surrounded by a huge thicket of privet and yet they continue to struggle and bloom.

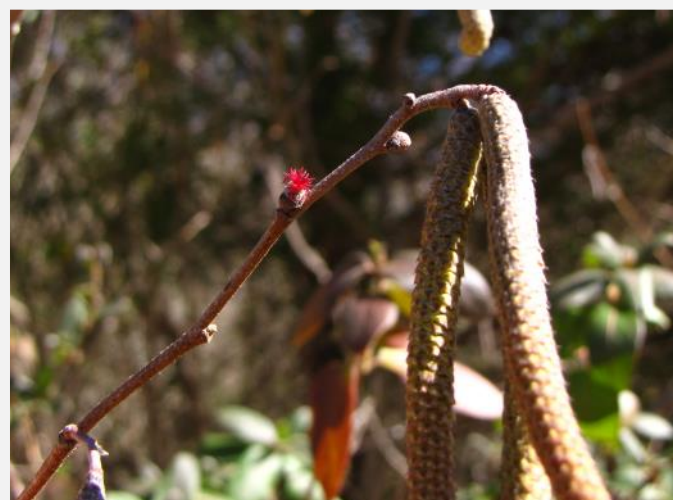
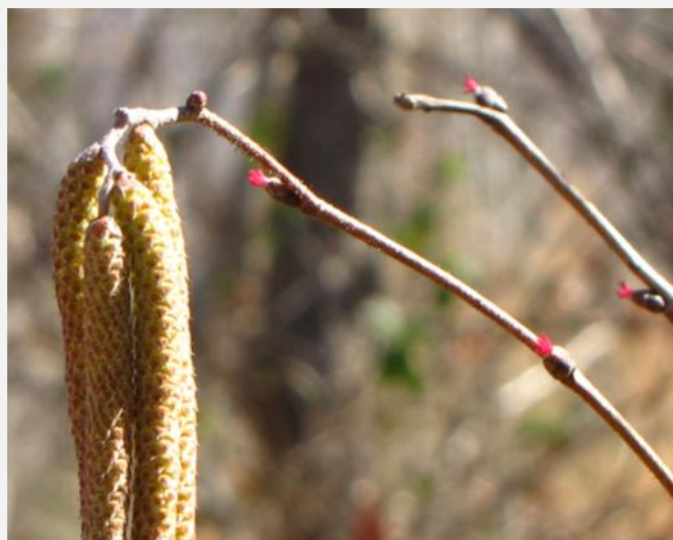
All of the work to free the rarer plants at Hebron will also benefit the other native plants in the preserve. The female flowers of *Corylus americana* are very small and inconspicuous, and often go unnoticed, especially as they bloom so much earlier than most spring shrubs.

Regards,

Herb Amyx

Note from editor: The Hebron Prairie Preserve protects *Echinacea laevigata* and *Symphyotrichum laeve* var. *concinnum*.

As Herb notes above, these preserves also serve to protect surrounding habitat, which includes many other native plants. A healthy habitat is essential to the protection of all of these plants.



STEWARDS CORNER: DALE BATCHELOR & JOHN THOMAS PONDBERRY BAY

President's Day Cleanup at Pondberry Bay

President's Day, a Wake County Teacher Workday, provided a great opportunity for a winter visit to Pondberry Bay with our regular helper, James, and his dad, George Jeter. Anticipating visitors to the Preserve in March when the Pondberry is in bloom, we wanted to clear some trash along the major roadway through the preserve.

It was exciting to see the results of the recent burn, including grass stage and other young Longleaf pines. James was dismayed to see re-sprouting from some of the Loblollies we slashed last year, but we were all gratified to see how easily the seedlings and young trees pulled up after the weekend's rain.

Since our primary target was trash, we didn't have too much time for weeding. Unfortunately, it didn't take long for us to fill our bags and the back of the truck with trash and recycling. We anticipate many more Pondberry cleanups to come.

John Thomas and Dale Batchelor
Pondberry Bay Site Stewards



James cleans up



An Early November Visit to Pondberry Bay with Richard LeBlond



It was a good day. Autumn, and the near absence of flowering plants, makes you look harder. It is possible we found things we might not have otherwise seen. The sunflower turned out to be *Helianthus angustifolius*, and the unusual *Dichanthelium* was *commutatum* var. *ashei*. The *Panicum anceps* was var. *rhizomatum* (soon to be *Coleataenia anceps* var. *rhizomatum*). The plant A.J. and I puzzled over I'm pretty sure is *Crocianthemum* (= *Helianthemum*) *canadense*.



Photos: Nancy Adamson and Kathy Schlosser

Super-Tough Seed Coat Keeps Michaux's Sumac On Critically Endangered List

ScienceDaily (Oct. 11, 2011) — It is one of the rarest shrubs in the southeastern United States, and for scientists trying to save it, the critically endangered Michaux's sumac (*Rhus michauxii*) is not cooperating.

So far botanists have exposed the hard-, thick-coated seeds of this native North American plant to boiling water, dry heat up to 284 degrees Fahrenheit and flames from a propane blowtorch to try to coax them into germination. Nothing has worked.

"Complete understanding of the germination requirements of endangered plants is an absolute requirement to effectively manage populations," Smithsonian research associate Jay Bolin and botanists Marcus Jones and Lytton Musselman write in a recent paper on this plant in *Native Plants Journal*.

So far, however, Michaux's sumac has not given up its secrets.

Because Michaux's sumac grows only in areas with few trees where the vegetation has been disturbed, it has long been assumed that its seeds germinate naturally following exposure to the high temperatures of a brush or forest fire. Decline of this plant has been attributed to the prevention and suppression of brush and forest fires by humans.

In Virginia it grows in only two places: on the grounds of the Virginia Army National Guard Maneuver Training Center in Fort Picket, and a mowed railway right-of-way in an undisclosed location.

In a recent series of germination experiments, the scientists exposed different sets of Michaux's sumac seeds to dry heat temperatures of 140, 176, 212, 248 and 284 degrees Fahrenheit, some sets for 5 minutes and other sets for 10 minutes. (The temperatures were determined based on maximum wildfire surface temperatures and burn times recorded in southeastern U.S. forests.)

The researchers found that temperatures above 212 degrees F. killed the seeds. Lower temperatures had virtually no impact on breaking the seed's dormancy.



The highest germination rates -- 30 percent -- occurred after sulfuric acid was poured on Michaux's sumac seeds and allowed to scarify (dissolve and weaken) the seed coats. This finding, from an experiment done in 1996, has

led the researchers to their next experiment using birds.

"We are going to feed the seeds to quail and wild turkey to determine if that breaks the seed dormancy," says Bolin, a research associate with the Department of Botany at the Smithsonian's National Museum of Natural History and an assistant professor at Catawba College in Salisbury, N.C.

Seed passage through the digestive tracts of fruit-eating birds (and exposure to the acid in the bird's stomachs) may break the physical dormancy of these seeds and help disperse them as well, the scientists write.

Jay F Bolin, Marcus E Jones, Lytton J Musselman. "Germination of the federally endangered Michaux's sumac (*Rhus michauxii*)."
Native Plants Journal, Volume 12, Number 2, Summer 2011, pp. 119-122



Scott Hartley and Misty Buchanan (then Franklin) discuss *Rhus michauxii* at Weymouth Woods in 2004.

PCP Highlights—2011

Preserve Establishment & Expansion: The Plant Conservation Preserve System was expanded by ~600 acres during 2011 and nearly \$2,000,000 was awarded to future preserve expansion projects. Expansions were completed in the mountains, piedmont, and coastal plain, and one new Preserve was added in the Mountains (see Cedar Mountain below). Tater Hill, Eastwood, Boiling Spring Lakes, and Melrose Mountain each gained a new tract. Taken together, the Preserve system now includes 20 Preserves and approximately 13,344 acres.

Staff Updates: The staff is larger and stronger than ever before. Nancy Stewart became the first administration staff support ever assigned to Plant Conservation Program. Having her regular assistance on a variety of tasks has significantly expanded the capacity and effectiveness of the Program. In addition, we have been lucky to fill and maintain a permanent two-person field crew since February of 2011. Further building our capacity, a new position has been approved and announced as of Feb, 2012. We expect this new person will allow PCP to develop comprehensive Preserve management plans as well as organize and implement our increasingly multifaceted management goals.

Outreach & Collaboration reach all time high: The number of PCP led field trips and workdays, and outreach efforts exceeded 60 over the past year. A host of different activities afforded opportunities to reach the general public, neighbors, potential partners and volunteers. A partial list of collaborators worked with during the year include; Eno River Association, Carolina Mountain Land Conservancy, Division of Forest Resources, Friends of Mountains to Sea Trail, Land Trust For Central NC, Catawba Lands Conservancy, Highlands-Cashiers Land Trust, NCDA Research Station Division, Duke Forest at Duke University, numerous owners of Important Plant Conservation Areas, Volunteer Stewards, NCDOT, NC Botanical Gardens, City of Boiling Spring Lakes, Natural Heritage Program, Warren Wilson College, UNC Asheville, USFWS, The Nature Conservancy, and the NC Native Plant Society.

Volunteers Really Help!: The most active, regular, and ongoing volunteer partnership over the last year or so has been with the Eno River Association (ERA). ERA has supported and expanded PCP's effectiveness by advertising numerous workdays to their extensive network of members and potential volunteers. These ERA sponsored workdays greatly expand capacity to complete specific Preserve management tasks, in part because their volunteers aren't afraid to get to get their hands dirty! In addition, they don't shy away from labor intensive tasks. In 2011 we shared 7 very successful workdays averaging ~10 people per workday.



Workday participants on a cold February morning in Durham with their “booty” of collected tires and trash near an abandoned home site on the Hebron Road Preserve.

Continued on following page

Burning Program: PCP staff had one of the most successful burning seasons since the Program's inception. The 4 person staff, with the occasional assistance of volunteers, was able to conduct 10 burns during the 2 month spring burning season. In addition, partners, both paid and unpaid, have made possible 5 more burns. Despite these successes, there are at least 60 more burns needed this year if we are to keep pace (or catch up) with our targeted burn cycle across the existing Preserve system. Recognizing that expanding the compressed burning season is needed, we attempted two prescribed burns in December and completion of an additional 2 in January and February thus far.



NCDA & CS employee Scott Cannady helps light a prescribed fire at the Pondberry Bay Preserve in Sampson County.

Research Project: Staff have been working collaboratively with Dr. Jeff Glitzenstein, Research Associate and Beadle Fellow at Tall Timbers Research Station in Florida to study the effects of mechanical restoration of pine savanna habitats. Ground cover plots were established, sampled, and treated in several areas of the Boiling Spring Lakes Plant Conservation Preserve and re-census of these plots will take place in 2012. While we expect this research to have broad and long term implications, an immediate benefit has been having Jeff conducting field surveys in parts of the Preserve where he has located several new populations of rare plants.

Boiling Spring Lakes: One of the largest contiguous tracts within the Plant Conservation Preserve system, the "Back Bay" tract at Boiling Spring Lakes has lacked management attention in the past due in part to decades of fire suppression, awkward boundary lines, and the presence of sizeable pocosins and critical soils. However, returning fire to the tract is absolutely necessary for the benefit of the host of rare plants known nearby. Staff spent several weeks locating the property boundary and mowing preliminary control lines around the perimeter as well as strategic locations throughout the interior in early 2011 as well as collaborating with the Division of Forest Resources (DFR). These efforts paid off in Jan 2012, with the execution of an extremely successful prescribed fire, the first ever recorded on the tract. DFR deployed 5 tractor plow units, numerous staff, and a spotter plane that were essential to executing this technically difficult burn. A small crew provided by TNC also helped make the burn a success.

Plant Conservation Program's mowing machine at work reducing heavy fuel loads along the edge of the Back Bay tract at Boiling Spring Lakes.



Cedar Mountain Bog: With the support of the NC Natural Heritage Trust Fund (NHTF) a new Plant Conservation Preserve was established in December 2011. The site features the only apparently stable population of the federally and state endangered mountain sweet pitcher (*Sarracenia jonesii*) in NC. However, several other rare species have declined on-site, and related evidence has suggested an overall decline in site quality. To address this decline, staff began an overall site restoration project by documenting and then removing massive quantities of small trees and saplings that had invaded the bog since the 1970's. PCP's restoration efforts around the bog were expanded significantly through partnership with the Carolina Mountain Land Conservancy (CMLC) and USFWS. An additional work crew funded through this partnership and supervised by PCP removed invading white pines around the bog perimeter.



Mountain sweet pitcher plant, endangered species at the newly established Cedar Mountain Bog Preserve; the crew (including 3 PCP staff, CMLC volunteers) who conducted extensive restoration work on site.

Pondberry Bay: Efforts to restore longleaf pine and associated groundcover across parts of this 2000+ acre Preserve continued and expanded in 2011. Reintroducing and maintaining a regular fire program across the Preserve remains a critical need. Most of the prescribed burns we conducted in 2011 were "growing season" fires that produced extensive flowering and seeding of the understory plants. This set the stage for seed harvesting in the Fall. With the use of loaner equipment provided by the NC Wildlife Resources Commission, PCP staff collected a significant volume of seed which we will use in restoration efforts elsewhere on the Preserve, particularly in pre-existing loblolly plantations.



Plant Conservation Program staff operating seed harvesting equipment in growing season burn unit at Pondberry Bay Preserve.

Our goals to expand longleaf pine acreage were given an unexpected boost due to an arson fire that destroyed the loblolly pines in one of the large plantations on site. Salvaging the dead and dying loblolly afforded the opportunity and need to replant approximately 154 acres with longleaf pine seedlings. In other portions of the Preserve where long leaf remnants persist, PCP staff spent 4 weeks carefully hand-thinning and removing invading loblolly stems.

Epic Flytrap Surveys conducted: Building on two seasons of Venus flytrap census methodology testing, PCP staff expanded our scope to include all of the best flytrap sites in the state. Stretching from BSL to Camp Lejeune (~105mi), a total of 9 sites were chosen, 7 of which were censused due to wildfire and site destruction in two sites. This required the full staff plus help from 8 volunteers, NCDA specialists, and site guides over the course of 2 weeks with the aim of better understanding how BSL flytrap populations compare to the other best known sites.



PCP staff, NCDA & CS specialist Rick Gregory, Hervie McIver (The Nature Conservancy) counting Venus flytraps during sampling at the Shaken Creek Savanna site.

Ochlawaha Restoration Yields Success: After years of planning, this former mountain bog site began a significant recovery in 2011. An extensive hydrologic restoration project was completed mostly on a recently acquired former agricultural field. During the project, considerable non-native soil (or “overburden”) was removed to re-expose the original hydric soils, a deleterious drainage ditch was filled, and more natural stream channels and associated features were created to mimic a more natural wetland. In one small portion of the project area, we discovered that ~125 bunched arrowhead (*Sagittaria fasciculata*) rosettes had emerged! One month later, with the help of a new Preserve Steward, PCP Staff noted that these rosettes had rhizomatously expanded into ~1600, far more plants than had ever been historically reported from the site.

A cluster of bunched arrowhead rosettes in recently exposed mucky soils of the Ochlawaha Bog restoration project.



Restoring the Grande Savane: An early map of the Piedmont region (circa 1718) labeled a large section of North Carolina, the “Grande Savane”. While no detailed descriptions document exactly what this landscape actually looked like, most ecologists seem to agree the historic landscape has nearly faded from memory. PCP has been working to restore a fragment of such a landscape.



Open grown oaks over species rich understory, with Eastern gamagrass and other prairie associated species, at the Eno Diabase Sill Preserve.

Efforts have included extensive hand removal of small stems of red cedar and loblolly pine, exposing remnant oaks, and a rich ground cover of grasses and forbs.

Submitted by:
Rob Evans, NCPCP Coordinator
Lesley Starke, NCPCP Research Specialist

JOIN A PRESERVE TEAM

You may join as a team member by contacting the Steward:

Harvest Field: Kathy Schlosser kathyschlosser@triad.rr.com

Mineral Springs Barrens: Lisa Tompkins

lestompkins@windstream.net

Hog Branch Pond: Charlie Kidder charleskidder@bellsouth.net

Hebron Road: Herb Amyx patamyx@yahoo.com

Eastwood: Joan Schneier joan.schneier@ncdenr.gov

Pondberry Bay: Dale Batchelor & John Thomas

dale@gardenerbynature.com

Tater Hill: Mark Rose trilliumboy@yahoo.com

Cedar Cliff: Jean Woods jean14424@aol.com

You may sign up as Steward or join a team by contacting Les-

ley Starke: Lesley.Starke@ncagr.gov

Bat Fork Bog—Henderson Co.

Ochlawaha Bog – Henderson Co.

Paddy Mountain – Ashe Co.

Melrose Mountain – Polk Co

White Oak Mountain – Polk Co.

Dulany Bog – Jackson Co.

Eno River Diabase Sill – Durham Co.

Hebron Road – Durham Co.

Long Mountain Slopes/Poison Fork – Montgomery Co.

Denson's Creek – Montgomery Co

Pondberry Bay – Sampson Co.

Boiling Spring Lakes – Brunswick Co.

Hog Branch Ponds – Brunswick Co.

Big Pond Bay – Cumberland Co.



Friends of Plant Conservation

*Conserving North Carolina's rare
plants and unique places.*

Membership sends a signal that you believe conservation of native plants in their natural habitat is important.

Membership contributes directly to that mission and funds raised will support the acquisition and management of critical sites.



Tom Baugh, past member of the FOPC Board and most recent past Steward at Bat Fork Bog Plant Conservation Preserve, has established a blog. In the blog Tom reflects on his work over the decades in what he refers to as Transdisciplinary Ecology. Tom posts to the blog twice a month and, although it is new, it is gathering significant attention. Take a moment and visit Tom at <http://hidden-springs.blogspot.com>.