Friends of Plant Conservation

Field Notes

Newsletter of the Friends of Plant Conservation Vol. IV, Issue 4, September 2012

Support group of the
NC Plant Conservation Program
NC Department of Agriculture
and Consumer Services
Raleigh, NC

2012 Annual Meeting

Wednesday, Nov 7th
8:30 am–4:30 pm
NC Arboretum
Asheville, NC

Optional Preserve Tours

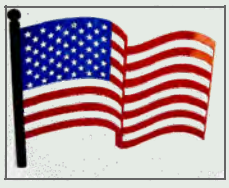
Tuesday, Nov. 6th
Cedar Cliff Preserve
10 am–3 pm

Thursday, Nov. 8th
Cedar Mountain Bog
10 am–2 pm

For Details and Registration:

www.ncplantfriends.org

BE SURE TO VOTE EARLY SO YOU CAN ATTEND



Water, water, everywhere…?
A TALE OF TWO WETLANDS

This old adage could be modified based on Plant Conservation Program experience to *wetlands, wetlands, everywhere… but not a drop of water to be seen.* Specifically, the Plant Conservation Program manages two wetland sites that seem to be lacking the most fundamental component of a wetland: water. Although widely separated geographically, both seem to be dryer than historical accounts or current plant species would indicate. When I joined the NCPCP in July, Rob Evans, the Program Coordinator, asked me to apply my wetland hydrology experience to an investigation of the two sites.

The first site is at the Pondberry Bay Preserve in Sampson County. The preserve has a number of Carolina bays, including the site's namesake. Pondberry Bay is home to one of three extant populations of *Lindera melissifolia* (Pondberry) in North Carolina. *L. melissifolia* normally grows in areas with periodic flooding of water, either overland from a stream/river *or* from rising water table levels after heavy rains. There are several *Taxodium ascendens* (pondcypress) scattered close to where the *L. melissifolia* occurs. The presence of these two plants coupled with the bay's soil type should indicate regular periods of high water table levels with some ponded surface water. However, Pondberry Bay was last observed covered with surface water in 1995.

Neighbors recall fishing when they were children in Sister Bay, which is just south of Pondberry Bay. They said that Pondberry Bay occasionally held water but it was not deep enough for fishing. Currently, Sister Bay has surface water in the winter but Pondberry Bay doesn't. What changed? Sister Bay was essentially clearcut, managed for loblolly, and

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Best Wishes on your Retirement...

Exciting news for an individual is usually received by friends with an equal measure of delight. In this case, it brings a note of blues as well. Gene Cross, Director of the Plant Industry Division at NCDA&CS, will retire as of November 1st. Gene was the driving force behind the organization of Friends of Plant Conservation, and has been a solid, steady, and committed supporter ever since. He assembled a knowledgeable and talented group to serve as the first board of directors, and sat quietly through the first meetings, ready to answer questions and offer guidance, but careful to allow the board to stretch its wings.

As Paul Hosier, President, so aptly said, "He is the soul of FoPC."

We will miss the fact that Gene is always at the other end of a telephone line or an email, with eager and thoughtful consideration given to any challenge.

Gene has been a similar "pillar of conservation" for the NC Plant Conservation Program and staff. He will be sorely missed in that role as well. Happily, he will be around in another capacity.

Needing a little time to simply enjoy retirement and to play a role in the life of his first granddaughter, he has promised to remain active with the Friends of Plant Conservation. He is thinking about volunteering as a Steward on a nearby Preserve, and we have other ideas for him, too!

Our heartfelt wishes for a satisfying retirement are extended to Gene and his family, as well as our gratitude for the solid foundation he has provided for the conservation of North Carolina's imperiled plants and unique habitats. We couldn't have asked for a person of more honor, knowledge, skill, and dedication.

Lilium philadelphicum, wood lily

Bog hydrology continued

Pondberry Bay with a short-lived winter water cover.

cut a second time removing all evidence of cypress and most other woody vegetation, while Pondberry retains remnant cypress but has been heavily invaded by dense loblolly. The uplands around both bays have also been extensively modified. It is likely that these changes affected the water table level. Savannas are not as densely packed with trees as plantations, thereby use less water. Rob and I hypothesized that removing some, or most, of the planted loblolly would raise the water table level in the bays and help foster a more natural hydrology that would include periodic intervals with surface water beneficial to the *L. melissifolia*.

To test our hypothesis, I created a hydrologic model of Pondberry Bay. First, I used the precipitation and

evapotranspiration for the area coupled with the soil type to model what the water table level should look like throughout the year. My model showed that Pondberry Bay should have water table levels at least 4 inches above the soil surface for roughly 4 months from late fall through the winter, a common pattern for many wetlands since evaporation and transpiration rates are reduced during the winter. Currently, Pondberry Bay does have a few small areas with ponded water in the winter, but not nearly as much as the model suggested.

Next, I modeled how removing different amounts of loblolly would affect the predicted water table levels. The model suggests that removing a quarter of the loblolly would cause the water table levels to rise 8 inches during the summer months while removing half of the loblolly would raise water table levels 16 to 20 inches. So, the model suggests that removing the loblollies and restoring cypress savanna would significantly and positively affect the hydrology.

The second site is at the recently acquired Cedar Mountain Bog Preserve. This site is a "mountain bog" with a historically sparse canopy of *Pinus rigida* (pitch pine). Photos from the 1970s showed many fewer trees and shrubs than at the time of PCP acquisition. NCPCP staff and partners considered the role of the tree and shrub invasion in the apparent drying of the bog. Based on the 1970s photographs and other observations of the site, staff proceeded to begin restoration by cutting back small trees and shrubs. However, parts of the site appeared to be covered by a thick root mat that seemed to be holding water that would normally be on the surface of the bog.

At the end of August, I went with Jesse Phillips, NCPCP lead Land Management Technician, to investigate the issues at the bog. Through a series of soil pits and water table level measurements, we were able to determine that the bog was actually quite wet. The water table level was about 12 inches below the soil surface and a beautiful layer of muck was underneath the root mat (to a wetland ecologist, muck is beautiful). The root mat itself was mostly quite normal for a bog. It was about two inches deep and rested on top of the

Muck = water, water everywhere, and nary a drop to drink...

mucky soil layer that ranged from 4 to 9 inches deep, with the deepest parts near the center of the bog. Even though the water table was 12 inches below the surface (a good height for mid-summer), the saturated mucky soil provides great conditions for wetland plants. The earlier removal of the large white pines most certainly helped to raise the water table level. Overall, hydrologically speaking, the bog seems to be in good shape now.

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Bog hydrology continued

Jesse and I wondered how the white pines (*Pinus strobus*) were able to encroach on the bog in the first place. Through tree ring counts and some helpful drought data from the National Oceanic and Atmospheric Administration, we were able to determine that the white pines were likely established during a strong drought in the mid-1950s. The drought combined with an already altered hydrology caused by logging and development in the area enabled white pines to colonize the bog. We hope that with future monitoring and further restoration efforts, the bog will be able to continue playing a role as vital habitat for endangered plants.

~ Yari Johnson
Research Specilist
NCPCP

Annual Meeting
November 6 –8, 2012
Asheville, NC
At the NC Arboretum

Registration materials and details available at
www.ncplantfriends.org

or call Kathy: 336-855-8022

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.

Annual meeting 2012

Pillars of Conservation

Plants, Places, and People

Wednesday, November 7, 2012 8:30 a.m.—4:30pm.
at the North Carolina Arboretum, Asheville, NC

Optional: NC Plant Conservation Preserve Tours

Tuesday 10:00—3:-00 Cedar Cliff Mountain Preserve (co-sponsored by Highlands-Cashiers Land Trust)

Thursday 10:00—2:-00 Cedar Mountain Bog

$ 25.00 Friends of Plant Conservation and NC Arboretum members
$ 40.00 non-members, includes one year Friends of Plant Conservation membership

Join speakers Robert Peet (UNC Biology), Gary Wein (Highlands-Cashiers Land Trust), Valerie True (Blue Ridge Forever), Ed Schwartzman (NC Natural Heritage Program), and more for a day of information and discussion on the status of imperiled plant species and unique habitats in western North Carolina and what we can do to make a difference.

- Coffee/pastries in the morning and lunch at the Arboretum are included.
- Optional tours to Cedar Cliff Preserve and Cedar Mountain Bog also included.

Please complete the attached registration form, or visit www.ncplantfriends for a downloadable form.
Registrations must be received by November 1st to be included in the lunch count.

For details and a registration form, visit www.ncplantfriends.org

or contact Kathy Schlosser (336-855-8022 or kathyschlosser@triad.rr.com)

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c/o NC Plant Conservation Program
1060 Mail Service Center
Raleigh, NC 27699-1060
www.ncplantfriends.org

North Carolina Arboretum
100 Frederick Law Olmsted Way
Asheville, North Carolina 28806-9315
www.ncarboretum.org

Preserve Tour I: Tuesday, Nov. 6th (co-sponsored by Highlands-Cashiers Land Trust)
Leave Asheville 10:00 am (carpool and/or individual vehicles)
Return to Asheville 3:00 p.m.

Once we arrive at Cedar Cliff Preserve, a vehicle will be available to ferry us within walking distance of the top. Tour of the Preserve will be led by Gary Wein, Highland-Cashiers Land Trust, who has been studying the old-growth red cedars in the area, and Rob Evans, NCPCP.

Bring water and a lunch/snack with you, wear boots or good hiking shoes. We will go rain or shine, unless there are thunderstorms in the area.

Maximum number of participants: 20, so register early!




Preserve Tour II: Tuesday, Nov. 8th
Leave Asheville 10:00 am (individual vehicles)
Leave Preserve for home: 1:30—2:00 p.m.

Tour of the Preserve will be led by Rob Evans, Plant Ecologist and Program Coordinator at NCPCP, who will describe the state of the Bog when it was acquired by NCPCP and the work that has gone into restoring the bog.

Bring water and a lunch/snack with you, wear boots or hiking shoes. We will go rain or shine, unless there are thunderstorms in the area.

Maximum number of participants: 20, so register early!

Photos from Picture Creek workday

What do we have to lose without the NC Plant Conservation Program?? Members and friends (including Reid Chapter, NCNPS members) who showed up for a workday at the Picture Creek area of Butner Cedar Glade can tell you just what we have to lose, and sent a few photos for you!

As I'm sure you have already heard, this is one of North Carolina's gems of the Piedmont when it comes to rare plants. The volunteers were out there hauling brush that had been cut out from along the western edge of the powerline in order to allow more light into some of the glade areas for the benefit of several rare species. PCP staff has been working for weeks already cutting lots of material and needed help hauling it into piles to chip and remove it in upcoming weeks.

The week before this July workday, a lot was accomplished with help from volunteers through the Museum of Natural Science-- but as both groups can tell you, we still have a **lot** more to do!

Dale Batchelor

Liatris spp.

Rhexis alifanus

Asclepias verticillata

Echinacea laevigata

Ruellia humilis

Boiling Springs Lakes survey continues

These photos are from the transect monitoring I helped Jeff Glitzenstein with at Boiling springs Lakes in June.

it' is really Jeff's work that I've been tagging along to help with, but I thought FoPC members might be interested to note that there is continuing research going on at Boiling Springs Lakes and Hog Branch Pond Preserves to determine if and where mulching can be used as a surrogate to fire when prescribed burning is too difficult (weather, size vs staff available, proximity of residences, wind direction/speed, etc).

Lysimachia asperulifolia, roughleaf yellow loosestrife

Sarracenia rubra, sweet pitcherplant

Sarracenia flava, yellow pitcherplant

Lesley Starke
NCPCP Research Specialist

Sisyrinchium dichotomum, white irisette

Lesley Starke, NCPCP Research Specialist, took these photos at White Oak Mountain in June 2012.

The one on the top left appears in the ad for donations on page 6.

Thanks Lesley!!

Preserve Stewards Corner

From Herb Amyx, Eno River Diabase:

I would like to update some of the preserve steward information: Charlie Kidder left Hog Branch Pond and joined Pat and I at Hebron Rd. last October. So the 3 of us are stewards there; we also cover the Eno River Diabase Sill.

From Kathy Schlosser, Harvest Field:
Lespedeza has been a problem along the roadside at Harvest Field. In the spring, Jesse and Jenna sprayed, but as you see in the photo above, they hardly noticed the herbicide. (By the way, the H. schweinitizii are not really that short—they have simply


Helianthus schweinitzii

fallen over. This was shortly after a heavy rainfall. Thanks to Mark Rose for the photo.) I sent a note to Herb Amyx, who also has lespedeza on the Harrelson Tract, Eno River Diabase. He said that "Jesse and Jenna used glove application to individual plants to prevent collateral damage to other plants. They said that it is slow work but very effective and specific. " Next year I'll give that a try, along with weekly follow up visits.

Cedar Mountain Bog, Jean Woods, Joe Hamrick

Joe and I visited Cedar Mt. Bog Sept. 13th. The pitcher plants are healthy and abundant. We observed 1 turtlehead, *Chelone lyonii,* I think. The pictures show a purplish flower, but it was actually pink.

We also saw one gentian, probably *Genitana andrewsii.*

We observed 2 blow downs that block the road. It is easy to walk to the site, but now it is impossible to drive the circle.

We also observed several patches of pitcher plants that are not flagged. I can buy some flags and mark them next week.

Sometimes the smallest need the most help...

Sisyrinchium dichotomum, Endangered

Lesley Starke, NCPCP

Other Ways To Help

- Tread lightly, and stay on designated trails. On some popular mountains, the vegetation is being destroyed by human trampling.
- Learn all you can about endangered plants and the causes of their decline, and share that knowledge with others.
- Don't collect or buy plants that have been gathered from wild populations.
- Participate in the protection of our remaining wild lands and the restoration of damaged ecosystems. Start by joining Friends of Plant Conservation.
- Join Friends of Plant Conservation

Adapted from U.S. Fish & Wildlife Service, Asheville office

Contribute To Restore Imperiled Plants in North Carolina

The diminutive flower to the left remains in only a very few locations in North Carolina, and is only protected on two NC Plant Conservation Program Preserves, where the NCPCP staff strives to restore a vigorous, healthy population.

Your gift can make the difference between the continued existence of this plant and others, or their extinction.

Remember Friends of Plant Conservation and North Carolina's imperiled plants in your will.

Contact us to make a donation.

friends of plant conservation

...conserving North Carolina's imperiled plants and unique habitats...

For more information about making a donation or bequest to the Friends of Plant Conservation:

phone (910) 962 2642

email admin@ncplantfriends.org

web ncplantfriends.org/gifts

Friends of Plant Conservation cannot offer tax or legal advice. Consult your professional financial advisor or attorney before making a charitable gift.

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
Hebron Road: Herb Amyx patamyx@yahoo.com, Charlie Kidder charleskidder@bellsouth.net
Eastwood: Joan Schneier joan.schneier@ncdenr.gov
Pondberry Bay: Dale Batchelor & John Thomas
dale@gardenerbynature.com
Tater Hill: Mark Rose trilliumboy@yahoo.com
Cedar Mtn. Bog: Jean Woods jean14424@aol.com

You may sign up as Steward or join a team by contacting Lesley 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.
Butner Cedar Glade— Granville Co.

friends of plant conservation