



©Mark Rose

Success

A goal achieved is reason for celebration, and that is what we are doing because of the help of many of you. We are just \$2,000 shy of our initial fundraising goal of \$125,000 to purchase the last, best remaining site for *Shortia galacifolia* var. *brevistyla*, Oconee bells. With additional, and significant, help from an anonymous donor and the Clean Water Management Trust Fund, the State has begun the process of acquiring this tract. We hope that we will be able to offer a site visit again this spring, so watch your emails.

An easier way to donate:

Visit www.ncplantfriends.org and use The DONATE button. You will be Taken to the Paypal site where you can use your credit card. You do not need a Paypal account to do this.

Thank you!

Listed elsewhere in this newsletter are those who contributed to this effort. If you made a donation and your name is not listed, please notify us right away.

Fundraising for this tract has not ended, so if you would like to support stewardship of the land, there is still time. Additional funds will be needed to purchase and install a gate and signage, as well as some immediate land management needs. Send your tax deductible check payable to Friends of Plant Conservation with Shortia project in the Memo line to:

FRIENDS OF PLANT CONSERVATION
NCDA&CS PLANT INDUSTRY DIVISION
PLANT CONSERVATION PROGRAM
1060 MAIL SERVICE CENTER
RALEIGH, NC 27699-1060

ATTENTION: NANCY STEWART

Board of Directors

Paul Hosier, President
hosier@uncw.edu

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

Camille B. Collins, Secretary
camillero22@gmail.com

Crystal Cockman, Treasurer
Crystal@landtrustcnc.org

Andy Wood, Education, Program
awood@coastalplaincg.org

Bob Shepherd
shepb@bellsouth.net

C. Bruce Williams
cbw.3@earthlink.net

Gary Wein
hitrust@earthlink.net

Ola M. Lewis
Ola.M.Lewis@nccourts.org

Advisors & Staff

Rob Evans, PCP Coordinator
Rob.Evans@ncagr.gov

Lesley Starke, Research Specialist
Lesley.Starke@ncagr.gov

David Tart, PCP Land Tech.
David.Tart@ncagr.gov

Nancy Stewart
Info. Processing Tech., Ginseng Coord.
Nancy.Stewart@ncagr.gov

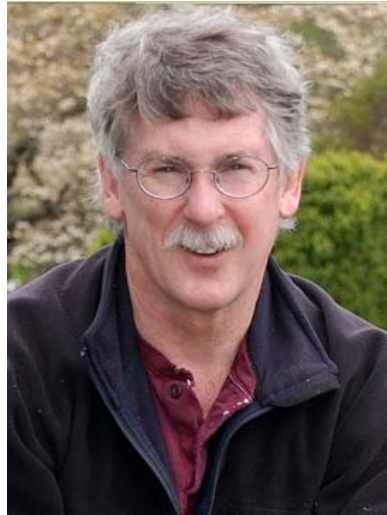
David Welch, PCP Administrator
David.Welch@ncagr.gov

Vernon Cox, Director
NCDA&CS, Plant Industry Division
Vernon.Cox@ncagr.gov

Phil Wilson, Plant Pest Admin.
Phil.Wilson@ncagr.gov

News from the Board

Since the last newsletter, we have welcomed two new members to the board of directors:



Gary Wein, Executive Director, Highlands-Cashiers Land Trust

Gary joined the board over the summer, lending his knowledge and skills almost immediately. He has contributed to our understanding of the current budget outlook, and helped with the development, production, and transportation of a display on our Caraway Tract project for the Cullowhee Native Plant Conference. He also attended the Caraway Tract site visit, bringing friends along. Gary steps up whenever a plea for assistance goes out. We are pleased that he has joined us and appreciate his enthusiasm and knowledge.



The Honorable Ola M. Lewis, Senior Resident Superior Court Judge

Judge Lewis' career began in 1990 when she was admitted to the N.C. State Bar upon graduating from NCCU School of Law in Durham. During and immediately following law school Judge Lewis clerked for the firm of Thigpen, Blue, Stephens and Fellers in Raleigh. In 1991 she moved to beautiful Boiling Spring Lakes in Brunswick County to work as an Assistant District Attorney serving Brunswick, Bladen and Columbus counties. It was there Lewis prosecuted cases involving the poaching of the imperiled Venus flytraps from the few locations these plants grow in the area known as the "Green Swamp" of Brunswick and Columbus Counties and in her hometown of Boiling Spring Lakes. In 1993 Lewis began her judicial career as a District Court Judge. She currently serves as the Senior Resident Superior Court Judge of Brunswick County, home to many nature preserves, beautiful waterways, marshlands and beaches. Judge Lewis is married to Reginald Holley.



Every contribution moves us closer to successfully protecting one of the rarest of North Carolina's imperiled plants, *Shortia galacifolia* var. *brevistyla*. This special plant has a charming history, and we are pleased to add the following names to the list of those who have taken steps to preserve it.

Nancy Adamson
 Anonymous
 Anonymous
Lyle and Susan Adley-Warrick
In Memory of Julia Murray Mackintosh
 Reed and Lanakila Alexander
 Herb and Pat Amyx
 Yvonne P. Arbuckle
 Dale Batchelor
 Isbell Behrer
 Richard E. Bir
 Catherine Bollinger
 Sondra Brown
 Wes Burlingame
 Kendall Suzanne Cadwell
 Cedarwood Garden Club
 Camille Collins
 Will Cook
 James T. Costa
 Bill and Jennifer Cure, Cure Nursery
 Donna Deal
 Renita Debnam
 Leah Dey
 Mary G. Douglass
 Betty Dziedzic
 Kimberly A. Ensley
 Diane E. Ford
 Joyce Foster
 Nancy Foster
French Broad River Garden Club
In Honor of Rob Evans
Mitch Gillespie
In Honor of his niece's birthday—Callie Elizabeth Spratt
 C. Frank Goldsmith
 Lisa L. Gould
 Clementine W. Gregory
 Dorothy Hamill
 Mrs. Nathan V. Hendricks III
Highlands-Cashiers Land Trust, Gary Wein
In Honor of Rob Evans

Dana Sanderson Holden
 David Holland
 Paul Hosier
 Lawrence V. Howard
 Mary Louise Hunley
 Jesse Turner, Landscape Architect
 Jack A. Johnston
 Frances T. Jones
 J. Thomas Jones, Jr.
 Ann W. Katholi
 Lisa Kelly
 Tom Kenney
 Gwen Konsler
 Paula LaPoint
 Christy Larson
 Ann W. Latimer
 Michael Lee
 Phillip S. Letsinger
 Karen S. Lindauer
 Sheilah K. Lombardo
 Lynne M. Lucas
 Catherine McRae Luckenbaugh
 Tara Jane Mann
 John Marsh
 Mary Martorella
 James F. Matthews
 Ann B. McCormick
 T. Lawrence Mellichamp
 Sherrill S. Metzger
 Alan Mizeras
 Bibby Moore
Jo & Charlie Musser
In Honor of Kathy Schlosser
 NC Native Plant Society
 Cary Paynter
Piedmont Herb Society
In Honor of Kathy Schlosser
 Jesse P. Perry
 John Petranka
 J. Dan Pittillo
 Patricia A. Polentz

Charles & Marilyn Racine
 Mary Riggs
 Paula Robbins
 Elena L. Robson
 Shelley Rutkin
Steve and Kathy Schlosser
In Honor of Rob, Lesley, Nancy, David W. and David T.
 Janice Schulhof
 Bob Shepherd
 Jeanne M. Smith
 Kathryn E. Stein
 Judy and Horst Stierand
 Susan Sunflower
 Janice Swab
 Nancy Swann
 Merike Tamm
 Jacqueline Tate
 Arlene Edwards Thompson
 Jo Rainey Tisdale
 Lisa S. Tompkins
 Julie Tuttle
 Wake Forest Garden Club
 Ann Baker Ward
Western Carolina Botanical Club
In Honor of Charlie Williams
 Anna Weston
 Kent Wilcox
 Charles B. & Lydia Williams
 Ruby Bock, Woodlands Garden
 Jean Woods
 Robert E. Wyatt
 Val Bronner Zamora
 Alice Zawadzki

CARAWAY VISIT



“THANKS”



There are several Friends members and friends who have been especially helpful in our effort to raise funds to secure the Shortia site in McDowell County. Certainly among those are Patrick McMillan, who agreed to take time out of another trip to stop by and talk with a group who gathered at the NC Botanical Garden on October 8th. He delivered an informative and entertaining history of Shortia in North and South Carolina.

Patrick is the host, co-creator, and writer of the, Emmy-award winning nature program *Expeditions with Patrick McMillan*, appearing on PBS stations. Patrick is a professional naturalist, faculty member of the School of Agriculture, Forestry and Environmental Science at Clemson University, and director of the South Carolina Botanical Garden.



A group of Patrick's friends and mentors from his days at UNC were on hand to greet him and reminisce.

Photos (except Nancy) by Nannette Wilson.

Friends member Charlie Williams, who has worked with us on nearly every presentation during our fundraising effort, brought along two copies of *In Search of Shortia: With Asa Gray in North Carolina 1879* by John Marsh. He offered the books to the first two in attendance who donated a minimum of \$100—and they were quickly claimed! Charlie has long supported efforts to protect this plant.



Others who have worked tirelessly and generously with me include Gary Wein, Crystal Cock, Camille Collins, Bob Shepherd, and of course, Nancy Stewart. Nancy has been invaluable in keeping calendars, accepting and recording donations, and making sure everything about this effort is in order.

Rob Evans, who also presented his research on the history of this plant and its' followers, has been the leading force—making contacts, presenting programs, and offering support and encouragement to FoPC at every step.

Thanks also to Johnny Randall, NCBG, for his continuing support, encouragement, and for the use of the facility.

My sister and Friends member, Mimi Westervelt, has traveled with me, overseen refreshments, and helped in countless other ways.

Thanks to all—and my apologies to those I failed to personally acknowledge here.

Kathy Schlosser



WELCOMING REDLAIR

In December 2013, the NC Plant Conservation Program officially added the 738 acre Redlair Farm & Forest to its list of Preserves.

In 1954, Jean and Forney Rankin moved to Gaston County and the land occupied by Rankin family members since the early 1800s. The red soil caught Jean's eye, as her husband and children all had red hair, and she dubbed the land "Redlair." Much of the land had been maintained as a working farm and forest, and was owned by Rankin family members until December.

The Rankins were pleased to find that Redlair qualified as one of North Carolina's Important Plant Conservation Areas. Since that time they worked in partnership with the Catawba Lands Conservancy and with NC Plant Conservation Program to have Redlair formally recognized as a Plant Conservation preserve.

Description

Redlair consists of 738 acres in Gaston County, which along with 450 adjacent acres owned or protected by the Catawba Lands Conservancy, forms an 1200 acre area on the South Fork of the Catawba River.

This site supports North Carolina's largest population of *Magnolia macrophylla*, as well as a population of Schweinitz's sunflower, *Helianthus schweinitzii*. The land includes a diverse array of hardwood forest types, plus old field pine forest and farm land. Because of the steep, hilly nature of this tract, only a small portion was previously cultivated, resulting in less degradation than has happened to most land in the Piedmont.

Redlair is remarkable for the extent and integrity of its upland hardwood forests, many of which have not been cut for a century and are unusually free of invasive plants, thanks to the continuing efforts of Haywood Rankin.

This property is currently used for botany, ecology, environmental science, and geology field trips. In addition, many local groups, such as the NC Native Plant Society, the Audubon Society, and North Carolina Wildlife Federation, have visited the property, and research continues by local colleges and universities.

A committee of Friends members, Rankin family, CLC, and other interested parties continue work to establish a plan for the future of the site.



Haywood and Sabine Rankin



Haywood Rankin with *M. macrophylla*

ANNUAL MEETING 2013



Hughen Norse



Herb Amyx



Granite flatrock at Mitchell Mill



Bob Shepherd, Brad Ives, David Welch, Camille Collins



Vernon Cox and Gene Cross



LUNCH!!!



Hughen Norse and Alexander Krings

More Annual Meeting photos...



Maude & B.W. Wells homeplace



Dr. Harrelson on Harrelson Tract



Herb & Pat Amyx leading tour.



STEWARD'S CORNER

Herb and Pat Amyx report that the Friends of Plant Conservation recently donated 26 long leaf pines to the new tree nursery of the town of Wake Forest. These pines were left over from a reforestation project at the Pondberry Preserve.

They will now be used for the greenways and landscaping of Wake Forest. Town arborist, Evan Keto, thanked the Friends of Plant Conservation for their donation at the recent dedication ceremony for the tree nursery. The nursery is located at the E. Carroll Joyner Park in Wake Forest.



Nancy Adamson has joined the ranks of Preserve Stewards, taking on Denson's Creek in Montgomery County, just outside Troy. In addition to the usual duties of stewards, she will be keeping a watchful eye on a small, and we hope growing, population of *Helianthus schweinitzii*.

Nancy inspects big leaf magnolia at Redlair.



Pat Amyx takes a quick break on the granite outcrop at Mitchell Mill.

STEWARD'S CORNER: CEDAR MT. BOG

The following report, from **Jean Woods**, was from a site visit in early spring that I failed to get into the newsletter.

Kathy

The site looks healthy. The pitcher plants nearest the stream were submerged during one of our recent heavy rains and much debris has been dumped around them. There is also holly coming up. It is hard to see in the pictures.

The clumps farther back from the stream look really good. The *S. purpurea* is up all over, but the *S. jonesii* will be up later. The turkey beard is coming up. None of the orchids are up, but it is too early.

We did notice a survey line that has been cut near where the old dirt road intersects the road that goes down in the bog. It is near the point where I usually park, just before the burned area. You can't tell a burn happened unless you look very close.



Bog or Fen

Fens are usually neutral to basic while most bogs are acidic. Fens usually have more minerals in the water. Fens usually only have grasses and sedges while bogs have sphagnum, shrubs, and bushes.

An explanation offered by Yari Johnson.

STEWARD'S CORNER: HARVEST FIELD



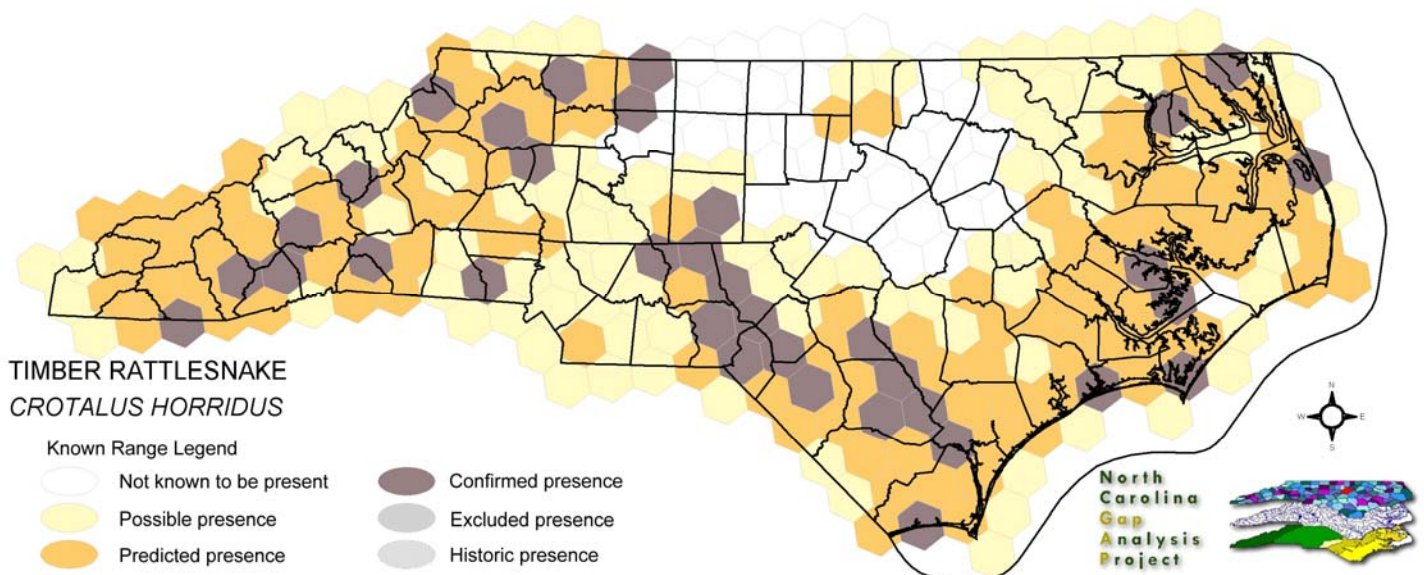
Lesley Starke, Research Specialist, at Harvest Field with *Helianthus schweinitzii*.



In late September, Lesley returned from a trip to South Africa, where she and Johnny Wilson were married, surrounded by his family and friends. She attended our Annual Meeting, giving her usual report on the status of imperiled species on PCP preserves. Shortly thereafter, she was busy with wedding planning once again, this time for family and friends on this side of the Atlantic. She and Johnny are now twice married—no question about their marital status!

At Harvest Field, we noticed a couple of plants beginning to move in off the roadside and toward the actual preserve. To help that process along, work was initiated this summer to clear trees from areas of the preserve to encourage an open oak savannah, more likely to have been natural *H. schweinitzii* habitat prior to farming. Appreciated help was provided by the Randolph Co. Forest Service and Zac Orr, who advised us on Timber rattlesnake habitat.

We completed the annual *Helianthus schweinitzii* monitoring project at Harvest Field in October, after which Lesley went on to count blooming stems at Denson's Creek and in Montgomery, Union, Mecklenburg, and Gaston counties with help from Catherine Luckenbaugh, Lisa Gaffney, Lisa Tompkins, and



Map from: <http://www.basic.ncsu.edu/ncgap/sppreport/arade02040.html>
NCSU Dept. of Zoology, NC Geo App Project

Helianthus schweinitzii Annual Counts

In addition to the count at Harvest Field, Leslie Starke counted at Denson's Creek (Montgomery Co.O with assistance from Catherine Luckenbaugh from the Jim Matthews Center and Lisa Tompkins (Steward) who brought in three more volunteers: MaryAnne, Evanne (who helped last year), and a third person who came later and I didn't write down his name...

Friday it was Catherine again and Lisa Gaffney for counts at Redlair. We knew we didn't have enough so we made a plan to stop at a reasonable point and the two of them offered to finish it later in the week.

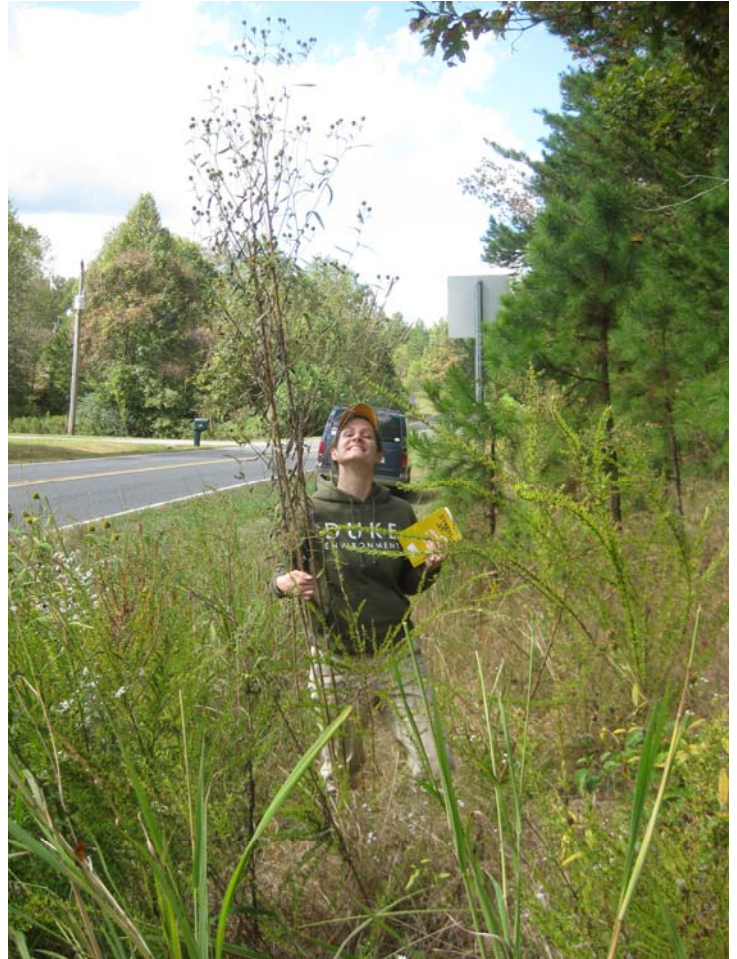
Monitoring Protected Plants Includes:

***Monitoring rare, endangered and sensitive
species in a variety of habitats;
Management methods, including using fire,
herbicides, mowing, and hand removal of
invasives to restore native habitats;***

***Testing the effects of climate change on
endangered species;
Rare plant reintroduction using site
appropriate seeds and greenhouse-grown
transplants;
Using long-term demographic studies to
make predictions on population trajectories;***

***Writing conservation and monitoring plans;
and***

Conducting surveys for rare plant species.



Lesley adds the largest specimen of 2013, at Harvest Field, to her list.

WARM WINTERS LET TREES SLEEP LONGER

Oct. 30, 2013 — In the temperate zones, vegetation follows the change of the seasons. After a winter pause, plants put out new growth in spring. Research has now brought a new correlation to light: The colder the winter, the earlier native plants begin to grow again. Since warmer winters can be expected as the climate changes, the spring development phase for typical forest trees might start later and later -- giving an advantage to shrubs and invasive trees that don't depend on the cold. In a recently published study, researchers at the Technische Universität München (TUM) investigated 36 tree and shrub species. Their work delivered a surprising result, as lead author Julia Laube explains: "Contrary to previous assumptions, the increasing length of the day in spring plays no big role in the timing of budding. An ample 'cold sleep' is what plants need in order to wake up on time in the spring."

This applies above all to native tree species such as beech and oak, because they rely on resting in the cold to protect themselves from freezing by late spring frosts. A different behavior is observed among pioneer species -- including shrubs such as hazel bushes and primary settlers such as birch trees -- and among species like locust and walnut that have moved in from warmer climate zones. "These trees take the risk of starting earlier in the spring, because they are less strongly dependent on the cold periods," Laube says, "and in addition they sprout more quickly as temperatures rise."

Advantage for shrubs and new tree species

There may be consequences for the forest ecosystem. After mild winters, the native species run a higher risk of developing their leaves too late. In that case, more daylight reaches the forest floor, and that benefits lower-growing shrubs and invasive tree species. They sprout earlier, to the detriment of native species: Young trees for example, still low to the ground, may not receive the light they need to grow.

"Even under warmer conditions, we won't be seeing 'green Christmases' under freshly blooming trees," says Prof. Annette Menzel, TUM Chair for Ecoclimatology and a fellow of the TUM Institute for Advanced Study. "Nonetheless, the differing growth patterns will affect the entire plant and animal world. The native tree species in our forests have only a limited ability to adapt themselves to climate change."

Shortened winter in the climate chamber

For their experiments, the researchers used twigs around 30 centimeters long from 36 different trees and shrubs, which they exposed to different temperature and light conditions in climate chambers. Each climate chamber experiment lasted six weeks. The twigs came from the "Weltwald" or "World Forest" near Freising, in which Bavarian state foresters have planted stands of trees from different climate regions.

The cold effect showed most strongly with the beeches, the hornbeams, and the North American sugar maple. With shortened cold periods, bud burst occurred significantly later. In contrast, the lilac, the hazel bush, and the birch proved to be less dependent on the cold.

"Overall, however, a chaotic picture emerges," Menzel adds. "Through warmer winters, the usual sequence of leaf development can get completely mixed up. Many of the cultivated species that are at home today in central Europe come originally from warmer climate zones. In the absence of adequate protection against freezing, they could become victims of their own too-flexible adaptation -- and freeze to death in a late frost in the spring."

Julia Laube, Tim H. Sparks, Nicole Estrella, Josef Höfler, Donna P. Ankerst, Annette Menzel. Chilling outweighs photoperiod in preventing precocious spring development. *Global Change Biology*, 2013; DOI: 10.1111/gcb.12360

From Science Daily, Oct. 30, 2013
<http://www.sciencedaily.com/releases/2013/10/131030093136.htm>

JOIN A PRESERVE TEAM

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

Cedar Mtn Bog: Jean Woods jean14424@aol.com

Eastwood: Joan Schneier joan.schneier@ncdenr.gov

Mineral Springs Barrens: Lisa Tompkins

lestompkins@windstream.net

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

Hebron Road: Herb Amyx patamyx@yahoo.com

Hog Branch Pond: Charlie Kidder charleskidder@bellsouth.net

Pondberry Bay: Dale Batchelor & John Thomas

dale@gardenerbynature.com

Tater Hill: Mark Rose trilliumboy@yahoo.com

Denson's Creek: Nancy Adamson



David Welch works on a steamy summer day at Hebron Road.

You may sign up as Steward or join an existing team by contacting Lesley Starke: Lesley.Starke@ncagr.gov

Butner Cedar Glade—Granville Co.

Bat Fork Bog—Henderson Co.

Cedar Cliff—Jackson Co.

Ochlawaha Bog – Henderson Co.

Paddy Mountain – Ashe Co.

Melrose Mountain – Polk Co

White Oak Mountain – Polk Co.

Dulany Bog – Jackson Co.

Long Mountain Slopes/Poison Fork – Montgomery Co.

Denson's Creek – Montgomery Co

Pondberry Bay – Sampson Co.

Boiling Spring Lakes – Brunswick Co.

Big Pond Bay – Cumberland Co.

Redlair—Gaston Co.

"Volunteers are the backbone, heart, and soul of the restoration movement. And whatever the eventual results of their labors may be, working to revive damaged ecosystems is transforming and strengthening their relationship with the rest of nature."

-William K. Stevens, Miracle Under the Oaks