

# Friends of Plant Conservation

## Field Notes

NEWSLETTER OF THE FRIENDS OF PLANT CONSERVATION

VOL. III, ISSUE 2, JUNE 2011

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

### CALENDAR

#### ANNUAL MEETING

WEDNESDAY,  
NOVEMBER 2, 2011  
NCBG, CHAPEL HILL

*Featuring George Briggs,  
NC Arboretum, Asheville*

ACCESS TO PRESERVES  
IS BY  
PERMIT ONLY  
Unless accompanied by  
NCPCP staff.



*Delphinium exaltatum* with  
black swallowtail on Tater Hill.  
Kathy Schlosser

## YOU SAY POTATO, I SAY TATER...

...Hill, that is. Mountain breezes, chirping birds, soaring hawks, and abundant wild-flowers.

Join Tater Hill Preserve Steward Mark Rose for a walk around the high elevation mountain bog, then up the hill, where if we are really lucky, we will see *Platanthera shriveri* in bloom along with a host of other plants, and to stand at the top of the mountain with a view as far as Virginia, some say. Then we will take a short hike to the Tater Hill bald, site of populations of *Delphinium exaltatum* and *Lilium philadelphicum*, wood lily.

The list of plants is long, the company great, and the scenery beyond compare.

Tater Hill is in Watauga County, about 15 minutes north of Boone.

The timing for this visit has been arranged to allow most to make it a one day trip without need for an overnight.

Free for  
Friends of Plant Conservation  
members!

**Sunday, August 7th**

**Meet at Tater Hill at 10:00 a.m.  
Maximum 4 hour jaunt to the  
bog and to the top of Tater Hill.**



Due to the fragile nature of the preserve, the visit will be **limited to the first 15 who reserve a spot.**

To make your reservation, send an email to:

**kathyschlosser@triad.rr.com**

or

**trilliumboy@yahoo.com**

**Directions and details will be  
sent to participants.**

June 2011



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## *From The President...*

Spring, 2011

Even though the economic news is bleak, the North Carolina state budget is in shambles, and tornados have ripped through the state; spring gives us a time to re-think our place in the world and heal our wounds.

I was reminded of the regenerative powers of nature on a recent trip to the North Carolina mountains. The trillium still bloom, maples provide shade to creeks, and the "greenery scenery" is awe-inspiring. Saving our natural plant heritage is essential and the only way it will be accomplished is by enlisting many more members to the Friends of Plant Conservation effort. If every member would enlist two new members a month, we would be able to get our plant conservation message out to "all the people" in North Carolina. Contact Dale Batchelor ([dbatchel13@yahoo.com](mailto:dbatchel13@yahoo.com)) or me ([cbw.13@earthlink.net](mailto:cbw.13@earthlink.net)) for membership information or better yet, visit our website....but talk up the NC Friends of Plant Conservation effort and sign up new members!

Bruce Williams  
President, Friends of Plant Conservation



*Trillium erectum showing variegation*



*Lesley, Mark, Mimi, Damian walk through forest toward Tater Hill bald.*



## INTRODUCING NCPCP STAFF



*Damian Smith clings to the rocks at the edge of Tater Hill.*



*Jesse Phillips walks down from the top of Tater Hill.*



*Jesse and Damian exploring the high elevation bog at Tater Hill.*

Asked about Jesse and Damian, Rob says they "have been critical in our efforts to prepare for and implement a series of productive prescribed burns this growing season."

We are thankful both for the federal funds that have allowed us to hire them, and for their willingness to work long hours in constantly changing conditions and take it all in stride.

With support of the FOPC we hope to create a more solid funding foundation to hire and retain dedicated, hard working staff that can keep our species recovery and ecosystem restoration efforts moving forward."

[www.ncplantfriends.org](http://www.ncplantfriends.org)

## CURRENT STEWARDS

Bat Fork Bog: Tom Baugh  
Harvest Field: Kathy Schlosser  
Mineral Springs Barrens: Lisa Tompkins  
Hog Branch Pond: Charlie Kidder  
Eastwood: Joan Schneier  
Pondberry Bay: Dale Batchelor & John Thomas  
Tater Hill: Mark Rose  
Cedar Cliff: Jean Woods

There are 10 preserves that have yet to be adopted. If you are interested, contact Lesley Starke:  
[Lesley.Starke@ncagr.gov](mailto:Lesley.Starke@ncagr.gov)

If you would like to join an existing team, volunteering for occasional workdays, contact Lesley and she will find a Preserve near you in need of team members.

### Join a growing group of Preserve Stewards

Do you have some time to spare? Are you willing to donate some of that time?

#### Sample activities:

- exotic vegetation control
- plant inventories
- site maintenance
- boundary marking
- and a number of things necessary to protect and maintain NC's Plant Conservation Preserves

**Contact Lesley Starke**  
[Lesley.Starke@ncagr.gov](mailto:Lesley.Starke@ncagr.gov)

## SUCCESS!

Tom Baugh, Bat Fork Bog steward, just reported a *Sagittaria fasciculata* (bunched arrowhead) in bloom.

Tom reports, "...I believe [this] to be the first bunched arrowhead to bloom at Bat Fork Plant Conservation Preserve in, what I suspect is, many years. While this is the only plant yet to produce a flower, several other plants in this population have buds and should flower within the week." He further says "I question again the published reports that this species requires clean, flowing water under shade...the water at Bat Fork has little or no movement except when it rains substantially and the plants didn't bloom until the shade was removed."

Tom hopes to visit again when the light is better so he can get clear photos.

**Congratulations to Tom for the work he has done at Bat Fork Bog. He is an example of the difference a Steward can make in the survival of a rare plant and restoration of a fragile habitat.**



Photo: Tom Baugh.



Photos: Kathy Schlosser from Tater Hill.



## Steward's Corner

### **Bat Fork Bog** - Tom Baugh

Tom Baugh, steward, recently had an article on his work at Bat Fork Bog published in the journal *Ecological Restoration* (citation below). The article focuses on the removal of reed canary grass, an effort that was required before further progress could be made.

You can access the article at: <http://uwpress.wisc.edu/journals/journals/er.html> or you can try contacting Tom or Rob directly.

Baugh, T., R.E. Evans, C.J. Stewart, and S. Artabane. 2011. Restoration of a Southern Appalachian mountain bog: Phase I. Reed canary grass removal. *Ecological Restoration* 29(1&2):13-14.



*Jeff Stewart stands among the reed canary grass.*

#### INFORMATION



Reed canarygrass, *Phalaris arundinacea*, is a cool-season perennial grass that grows to 6 ft. (1.7 m) tall. Leaf blades are flat, 1-4 ft. (0.3-1.2 m) long, up to 3/4 in. (1.9 cm) wide, gla-

brous and taper gradually. The ligule is membranous (transparent) and long. The spreading flower/seed heads arise from hairless stems and can be green, purple, or brown in color and usually 3-6 in. (7.6-15.2 cm) in length. Flowering occurs from May to July. Reed canarygrass is variable in morphology, so characteristics may depend upon the habitat. It spreads by seeds and rhizomes and can quickly dominate wetlands, ditches, prairie potholes and other sites with moist soil. Reed canarygrass can exclude all other vegetation and is extremely difficult to eradicate once established. Debate exists as to the nativity of reed canarygrass; it is native to Europe and possibly parts of Asia, but it may also be native to the northwestern United States. Aggressive behavior that is exhibited in many parts of the central and western United States may be a result of escaped cultivars that were bred for vigor and quick growth.

<http://www.invasive.org/weedcd/species/6170.htm>

### **Harvest Field**—Kathy Schlosser

Last fall, at the request of Rob Evans, my sister and I collected *Helianthus schweinitzii* seed from the population of plants growing along the roadside. There wasn't much left by the time we got there—gone to the birds, I suppose—but we did find enough that we thought we could grow about half of the seeds, and directly plant the other half.

I planted seed in makeshift “greenhouses” in January. By March, the seedlings were up. I left them in the containers, closed, until the weather warmed a bit, then opened the tops.

They are in need of planting, but I waited a bit, hoping that a planned burn (by the Div. of Forest Resources) of the site would happen. It has not, so the seedlings, now much too large for the small containers, will soon be planted.

The purpose of the seed collection is to move the plants further back onto the site and away from the roadside, where they are in danger of being mowed down.

**To maintain the integrity of your Preserve, never collect seed without the knowledge and approval of Rob or Lesley. You should also never introduce seed from another site without clearing the plan with Rob or Lesley.**



*Helianthus schweinitzii* seedlings in desperate need of planting.

# KEEP IT WET

Tom Baugh

Among a number of other things the word 'bog' implies is water. We have water at Bat Fork Bog Plant Conservation Preserve but until this year we've not understood the volume of water available to the Preserve, how it occurs, when it occurs, and where it occurs. After a year's observations and measurement we now have a better idea of the water budget at the Preserve and that understanding has provided us with some of the information the Plant Conservation Program needs to manage the Preserve for its own well-being and the well-being of the species, such as the bunched arrowhead, that find their homes in this unique Southern Appalachian Mountain wetland.

Whenever possible, on Tuesday mornings I drive from my home in rural Henderson County to Bat Fork Bog. I walk into the site on the somewhat elevated trail along the ditch we call Boundary Creek, slip into my mud boots and

step off the trail into the muck. From there I move through the perennials and shrubs, following a path I have marked with red surveyor's tape, until I reach a specially marked spot near the center of the swamp/forest/bog component of the Preserve. There I measure the depth of the water in a shallow basin or 'pan,' one of many scattered throughout the Preserve. Before leaving the Preserve I also visit a rain gauge along Boundary Creek where I note the amount of precipitation that has fallen on the Preserve during the period since my last visit. I average these data over a month and then plot them.

Because of these measurements, we now know that water stands in the Preserve all year round in a short stretch of Boundary Creek and also in some ditches in the southeast corner. We also know that surface water is absent from the swamp/forest/bog complex from about mid-June to mid-November or early December. As the swamp/forest/bog complex dewateres in mid-June, I also measure the depth of the water level under the surface of the muck and these measurements provide us

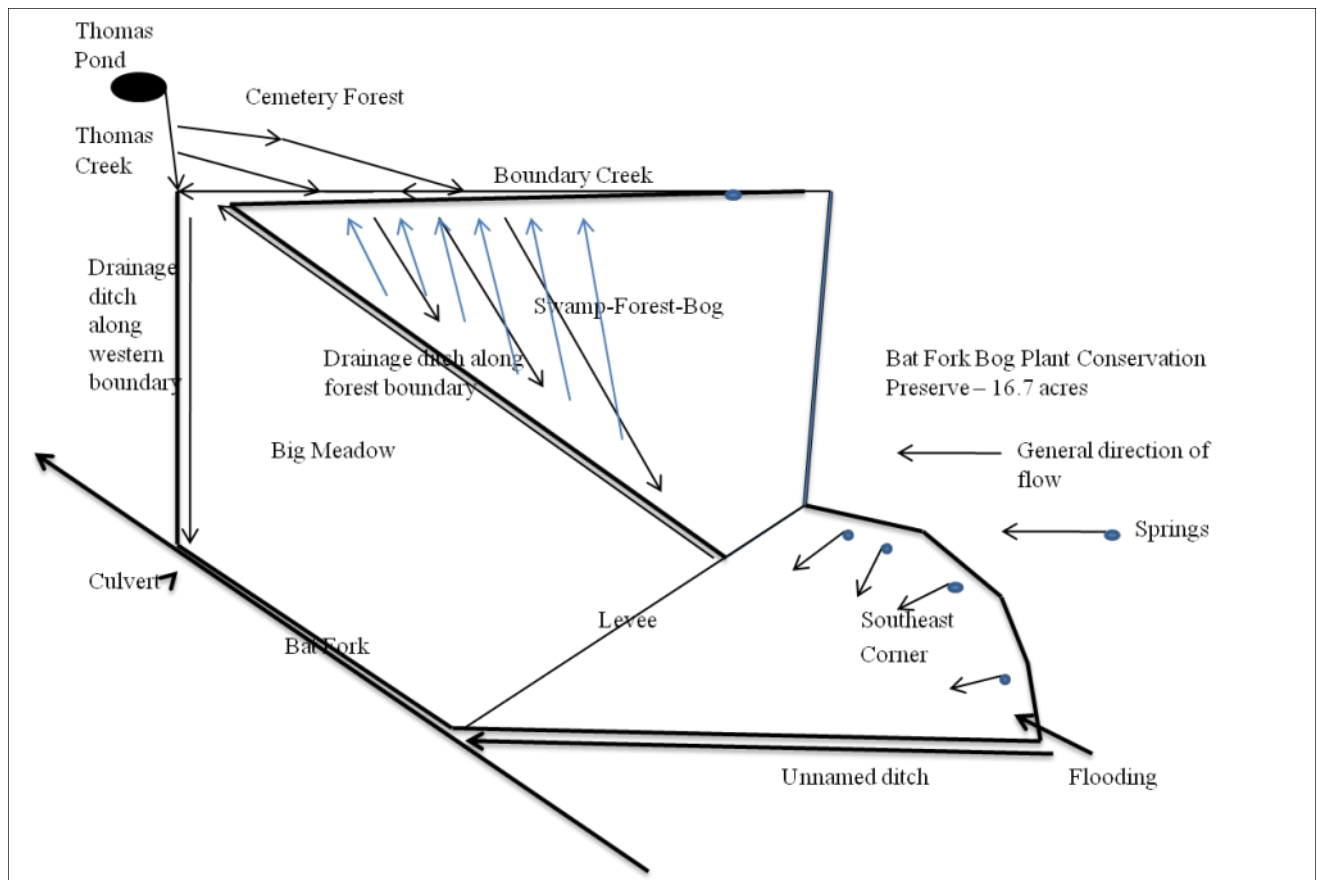


Figure 1.—Hydrology of Bat Fork Bog Plant Conservation Preserve, Henderson County, NC. The arrows show the direction of flow. The arrows pointing at the Boundary Creek area indicate the direction in which dewater-

## KEEP IT WET *CONTINUED*

with a profile of the subsurface water level as it lowers to about 30 cm below the surface mud. By mid-September-early October there is no standing water in the swamp forest bog.

Charting the presence or absence of water in the Preserve over this past year has also allowed us to confirm anecdotal information provided by neighbors living along the east side of the Preserve who have told me that the entire Preserve occasionally floods to a substantial depth. On the last day of November 2010 and the first day of December, the Preserve received an exceptionally heavy rain of about 18 cm. Direct rainfall, overland flow, and water from adjacent Bat Fork raised the water through the bowl-shaped Preserve by about 122 cm. It is likely, therefore, that during the peak of the flood, water would have been over my six foot-high head. We have made two other observations that might be important in the management and restoration of the Preserve. First, although it is only a matter of centimeters, as water levels in the Preserve decline, the drainage is generally toward the northwest corner and, second as the swamp/forest/bog component of the Preserve dewateres to the north, toward Boundary Creek.

By September of this year, I will have collected a relatively full year's water data providing the Plant Conservation Program with additional information I hope will help them manage the Preserve. These data will be forwarded to the PCP Program Manager and the Volunteer Supervisor and I plan to also publish them as a note in a refereed journal. Why publish? There are a number of reasons but perhaps most important is the need to share this information with other conservation biologists working on similar or maybe not so similar wetland sites.

In summary, the water component of wetland sites needs to be managed. Purchasing a site and burning off trees and shrubs that may block the sunlight needed by protected species may not be all that is needed. The Intergovernmental Panel on Climate Change has been fairly consistent in forecasting hotter, wetter weather for the Southern Appalachian Mountains. It is the ratio between hot and wet that can be the problem. Precipitation increase has to keep up with temperature increase or else the area can become increasingly drier over the coming years. In other words, less water to keep a wetland 'wet.'

*Tom Baugh is the Steward at Bat Fork Bog Plant Conservation Preserve in Henderson County, NC. He has also assisted the North Carolina Plant Conservation Program at several other sites in the Henderson County and Transylvania County area.*



### FALLS ON THE RIVER

Deep in this forest of rain,  
my limbs heavy with strain.  
I trudge up the hill to see the place,  
where the waters empty into space.  
For here the mountain is broken,  
while below the valleys beckon  
for the waters of life

Tom Baugh  
Previously published in  
*Rapid River Art Magazine*,  
Asheville, NC



## ***PRESCRIBED FIRE: A TOOL FOR ECOSYSTEM MANAGEMENT***

**O**n April 7, 2011, the Eno Diabase Preserve at Penny's Bend\* was burned to control invasive species, promote the health of the habitat and its plants, including *Lithospermum canescens* (hoary puccoon), *Echinacea laevigata* (smooth coneflower), *Baptisia australis* var. *aberrans* (wild blue indigo), *Ruellia humilis* (fringeleaf wild petunia), *Scutellaria leonardii* [*Scutellaria parvula* var. *missouriensis* (Torr.) Goodman & Lawson, Leonard's skullcap]\*\*, *Symphotrichum laeve* var. *concinnum* (smooth blue aster), *Trifolium reflexum* (buffalo clover), and *Liatris squarrulosa* (scaly blazing star).

At the time of the burn, hoary puccoon was in bloom and those involved were not entirely sure how the plant would respond.

In the photo below, courtesy of Mark Rose, you can just see one of the plants about to be engulfed by fire. (It is just to the north of center—you can see 5-6 little yellow flowers.)

The fire was successful, the staff went home and waited.

Then, on May 11th, just five weeks after the burn, the phone rang. "Want to come to Durham and see the puccoon in bloom," asked Rob Evans. Since I did not see the burn, I was eager to go and see the results.

*Continued on page 7*

\*Penny's Bend Nature Preserve is an 84-acre site surrounded on three sides by the Eno River in eastern Durham County, North Carolina. The Preserve has the distinction of being U.S Army Corps of Engineers property that is sub-leased by the State of North Carolina Division of Water Resources and managed by the North Carolina Botanical Garden through the Botanical Garden Foundation, Inc.

\*\* ITIS. Integrated Taxonomic Information System.  
[www.itis.org](http://www.itis.org)



*Photo by Mark Rose*



## ***FIRE RESPONSE*** *continued...*

Arriving on Friday, May 13th, we walked onto a field dotted with hoary puccoon, in full bloom. The answer to the questions is YES, *Lithospermum canescens* responds well to fire in the growing season, at least this time.

There was a lot more to see that day—a field in transition to a wildflower meadow blooming with *Marshallia*, *Baptisia*, *Echinacea laevigata*, *Clematis ochroleuca*, *Parthenium* spp., *Salvia urticifolia*, *Penstemon* spp., and of course, *Lithospermum canescens*.

Oh yes; we were serenaded by cicadas, finding them on nearly every leaf tip, tree trunk, and fence post—with the ground littered with discarded cases.

Kathy Schlosser



*Cicada*



*Baptisia and Marshallia obovata*



*Lithospermum canescens*



*Clematis ochroleuca*

*Photos by Kathy Schlosser*

## PONDBERRY SURPRISE



Rob Evans

Not to discourage current and potential stewards out there, but just a reminder that we share those spaces with more than plants.

Rob Evans spotted this Eastern Hognose Snake, also known as the Puff Adder, in the Pondberry Bay Preserve in late March. Rob says "you can see why it gets this name when you look at his neck, which is puffed out when bothered. After that, he hid his head under the body and eventually flipped over and played dead." It is a harmless, non-venomous species.

Obviously as much a surprise for the snake as it was for Rob!

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.



## MORE THAN WE BARGAINED FOR



After the Williams tract burn this spring, a previously unseen or un-recorded species is added to the plant list for the site: *Ruellia purshiana*, listed as Special Concern/Vulnerable.

See Williams tract story on page 15.

Photo by University of Tennessee Herbarium.



## AN UNINVITED GUEST HAS JOINED THE PARTY

**F**riends member Dale Suiter sent the following information from correspondence received from the NC Exotic Pest Plant Council, through Robert Trickel. You will recall that we have addressed the issue of Laurel wilt in previous newsletters, with particular concern for *Lindera melissifolia*—the disease now has been found in NC, not far from our preserves:

### Well, an uninvited guest has joined the party for our (NC Exotic Pest Plant Council) Invasive Species Awareness Week.

This is notification that redbay ambrosia beetles and the fungus that causes laurel wilt have been identified and isolated/confirmed in the Colly area of eastern Bladen County. There are indications that it may also be present in as many as four other nearby counties, but at this time we are awaiting confirmation before we can say for sure. However, even without proper confirmation we are sure that near future natural spread to nearby counties is imminent. Laurel wilt has been found to move about 20 miles/year naturally, but can move faster with assistance from humans moving redbay/swampbay firewood, wood chips, tree trimming debris and wood products.

RAB and laurel causes mortality in all Lauraceae species including bays (*Persea spp.*), *Sassafras*, pondspice and pondberry. Information about the insect/disease can be found at

the bottom of this email. In addition, a comprehensive website about laurel wilt can be found at:

[www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml](http://www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml)

Though it appears that the spot activity is pretty recent, eradication and control of natural spread is not possible. We have discussed regulatory approaches (quarantines) with NCD, but agreed that that also would not be feasible. Education and awareness, including the need to restrict the movement of infested/infected wood, are our most valuable tools for dealing with this forest health concern that is here to stay.



Pondberry pollinator?  
Photo by Herb Amyx, March 2010.

One of our main priorities is to notify and educate natural resource professionals about the disease, its impacts. In

addition, we will be working with various interests to restrict movement of redbay wood during forestry, tree maintenance/removal, and right-of-way clearing operations. Media releases are forthcoming but we need to make sure local folks are ahead of the curve prior to release because of the potential for generating phone calls/questions.

Management options on state and private lands are extremely limited. There may be some benefit on lands we all manage to cut down wilting and dead redbay and swamp bay and disposing of them on-site (burning, burying, and chipping, piling and covering) immediately when detected. This will not eradicate the pest from the property, but will reduce the amount of insects, inoculum, and brood sites, thus helping to slow the spread. In another state, it was found that even transporting yard tree debris from affected trees to a landfill spreads the pest along the highway and RAB then can infest areas around landfill. In states to the south where bays were pretty much wiped out after the "head" moved through, there is an effort to find unaffected trees and determine if there is any potential resis-

tant trees (or if trees were just missed)

If you are interested, our branch staff is available to provide training opportunities for you, your staff, or other interested parties—including site visits to explain identification of signs and symptoms, and how the host, insect, and disease interacts.

If you have any questions or suggestions, please do not hesitate to contact me.

Robert Trickel  
Pest Control Branch Head  
NC Registered Forester No. 1071  
919-857-4858

# Redbay ambrosia beetle

Redbay ambrosia beetle, *Xyleborus glabratus*, and **laurel wilt**, caused by the fungus *Raffaelea lauricola*, together constitute an insect-and-disease threat. The redbay ambrosia beetle serves as an insect vector for the fungus causing laurel wilt, a destructive disease of redbay (*Persea borbonia*) and other trees in the laurel family, including swampbay (*Persea palustris*), sassafras (*Sassafras albidum*), spicebush (*Lindera* spp.), and pondspice (*Litsea aestivalis*). *Lindera melissifolia* is a federally listed endangered plant, and *Litsea aestivalis* is listed as a threatened plant in multiple states.



Photo: Michael C. Thomas, FLDA&CS, Bugwood.org

The non-native redbay ambrosia beetle was first detected in Georgia in 2002; the associated pathogen, a highly virulent, invasive, wilt-inducing fungus, is believed to have arrived in the United States along with the beetle. Investigators believe that RAB was introduced into the United States in wooden crating material from Southeast Asia. Both RAB and laurel wilt have been observed as far north as Myrtle Beach, South Carolina. Mortality has been documented to spread about 20 miles per year on average. Neither threat has been detected in North Carolina, but its arrival in North Carolina is imminent within the next few years.

Redbay and swampbay are prominent species in North Carolina's coastal plain. In addition, pondspice and spicebush are found in the coastal plain and sassafras is found throughout the state. Laurel wilt has the potential to extirpate (cause local extinction) of any of these species in the Lauraceae family from much of the coastal plain. As the insect and pathogen go through an area, all affected plants eventually wilt and die. Dead foliage persisting on plants in areas with high densities of bay species will create fire hazards due to dead, dry aerial fuels. Because redbay trees resemble young live oaks, they are popular choices for retention during development in urban areas along the coast.

Various species of wildlife would also be impacted by the reduction or elimination of laurel wilt host species. Songbirds, bobwhite quail, and turkeys often feed on the fruit, while deer and bears frequently feed on foliage and fruits of redbay and sassafras. Several rare species of swallowtail butterflies rely heavily on redbay, sassafras, and spicebush for completion of their life cycle. At this time, no reliable controls exist for either the *Raffaelea lauricola* fungus or the *Xyleborus glabratus* insect vector.

Excerpted from: North Carolina Forest Assessment, 2010



Sawdust "sticks," a sign of infestation.

Photos: Albert Bud Mayfield, USDA Forest Service, Bugwood.org



The spot above the date on the penny is a redbay beetle.

Photo: A. Mayfield FDACS



## *A BILL TO PROTECT GALAX AND VENUS FLY TRAP*

On March 24th, Representative Mitch Gillespie (Burke and McDowell counties) filed H476, a Bill entitled

"AN ACT TO PROVIDE CERTAIN PROTECTIONS TO GALAX AND VENUS FLYTRAP UNDER THE PLANT PROTECTION AND CONSERVATION ACT, TO REQUIRE ANY PERSON WHO ACTS IN THE CAPACITY OF A DEALER OF EITHER OF THESE PLANTS TO OBTAIN A DEALER PERMIT, AND TO INCREASE THE CIVIL PENALTY FOR VIOLATIONS OF CERTAIN RULES OF THE WILDLIFE RESOURCES COMMISSION."

The Bill was co-sponsored by Susi Hamilton (New Hanover), Pricey Harrison (Guilford), and Carolyn Justice (New Hanover and Pender counties).

It passed the first Reading on March 28th and was referred to the Committee on Agriculture. On April 6th, that Committee submitted a substitute, that did not substantially change the Bill, and it was re-referred to the Committee on Finance.

There it sits.

It is encouraging to know that some of our legislators are genuinely concerned about the over-collection of plants from public lands for personal gain.

Even more encouraging would be funds in the budget to pay for the additional regulatory activity that will be required of staff should this Bill move on to the Senate and be passed.

You can read a copy of the Bill (it isn't long) by visiting:

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

Go to the section "Regulations"  
and follow link to H 476.

### **RARE PLANT REALITY**

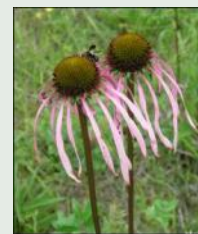
The NC Plant Conservation Program is the only agency in NC dedicated solely to the protection of endangered and threatened native flora.

State budgets for PCP staffing have not changed appreciably since the Program was established in 1979.

At that time the single state funded person focused on American ginseng and monitoring of some of the state's rarest plants.

Today we still have a single state funded person, while the American ginseng program has grown in size, complexity, and scrutiny. Regulatory mandates have increased substantially.

The staff is now responsible for the stewardship of 19 Preserves and 419 rare plant species scattered around the state, many of which require active management activities.



## NEWS OF INTEREST

The NC Natural Heritage Program is thrilled to introduce our new botanist, Laura Gadd. Laura has been working at NC NHP for one year as Natural Areas Specialist and Climate Change Coordinator. Prior to that, at the NC Plant Conservation Program she worked with NC threatened & endangered species and ginseng permitting. Laura has an M.S. in Botany from NC State University and a B.S. in Biology from Meredith College. We know Laura will be a great part of the Natural Heritage team.

Laura will be keeping track of all the great sightings of rare flora around the state. To send new records or updates directly to her, contact Laura at [laura.gadd@ncdenr.gov](mailto:laura.gadd@ncdenr.gov)



### ***Submitted by Dale Suiter:***

The U.S. Fish and Wildlife Service Recovery Champion Awards are intended to recognize those who have made significant contributions toward the recovery of threatened and endangered species. This year, Carolyn Wells and I talked about all the good folks doing good things for rare plants in North Carolina. While there is a long list of people who deserve recognition, one particular person seemed most appropriate because of all the work she's done toward rare species recovery and her recent changes in her career path and the potential that she may be less involved in recovery related projects in the future. We nominated her with hopes that she would be recognized at the Regional level, but our Regional Office staff were so impressed with our nominee that they forwarded the nomination to the Washington Office.

So, on Thursday, March 17, 2011, Acting USFWS Director Rowan Gould, announced that **Misty Buchanan** was one of the 2010 National Recovery Champions. Below are some excerpts from our nomination. Please join me thanking Misty for all of the work that she's done for all of the listed species in North Carolina.

"Misty Buchanan's interest in rare species began as a graduate student at North Carolina State University. While earning her Master's of Science in the Department of Botany, she studied the pollination ecology and seed development of conducted research on the federally endangered Rough-leaf Loosestrife (*Lysimachia asperulaefolia*), a North and South Carolina endemic. Following graduate school, she worked as a conservation ecologist

at the North Carolina Botanical Garden in Chapel Hill where she determined which rare species were under-represented in their seed collections and developed a plan to increase those collections with more current acquisitions from throughout the range of each species. This conservation seed collection continues to evolve and expand in size and it is being used for research, restoration and recovery efforts for several federally protected species.

Since 2002, Misty has worked as the Botanist with the North Carolina Natural Heritage Program. As the State Botanist, her responsibilities include surveying and monitoring rare plant species, including the 26 federally threatened and endangered species known from North Carolina. Her rare plant survey work has contributed greatly to our knowledge of the number of populations, distribution, status and health of each species. Misty is always willing to provide assistance to the Raleigh and Asheville Field Offices as requested, often on short notice. She has contributed so many Service efforts that it is difficult to mention them all here. For example, she has provided technical assistance toward the preparation of all Five Year Reviews completed by the Raleigh and Asheville Field Offices over the past five years (and surely several other Field Offices, too). She has served as a peer reviewer for many Five Year Reviews, the *Carex lutea* draft recovery plan, proposed critical habitat rule and many other technical documents. She revises the state list of rare species (including state and federally listed species) every other year.

Misty works closely with many of conservation partners throughout North Carolina including Plant Conservation Program, The Nature Conservancy, Wildlife Resources Commission, various different land trusts, etc. Serves on the NC Plant Conservation Scientific Committee which advises the NC Plant Conservation Board on issues related to the biology and ecology of endangered, threatened and special concern species. The Plant Conservation Board provides oversight on the management of the NCDA&CS Plant Conservation Program.

Misty is committed to educating others about North Carolina's flora and teaching others about the rare plants known from the State. She helps conduct rare plant workshops for environmental consultants leads field trips for the NC Native Plant Society."

Dale Suiter  
Endangered Species Biologist  
U.S. Fish and Wildlife Service



## WILLIAMS TRACT, ENO RIVER DIABASE, PRESCRIBED BURN, MARCH 22, 2011

A pleasant day in March seemed ideal for a prescribed burn, so Rob, Lesley, Jesse and Damian checked weather readings (temperature, relative humidity, wind speed and direction), gathered up their gear, and headed for the Williams Tract, site of *Echinacea laevigata*, smooth coneflower.

Actually, it's not quite that simple. First, neighbors on all sides must be contacted, and those wind speed and direction readings must assure the team that smoke will rise sufficiently to avoid drifting over the neighboring properties or the adjacent road.

is heavy and hot. All body parts must be covered, including head and neck, leaving little opportunity for body heat to dissipate. In addition, the team wears water packs—each holding several gallons of water...heavy, but essential to control fire that begins to move outside the planned area.

It becomes obvious, as preparations continue, that these are extraordinarily hardworking, safety conscious people who are no-nonsense when it comes to a burn.



*Weather kit carried on Lesley's belt..*



*Relative humidity is checked often.*



*Lesley reviews operation of water truck, also on the site as a safety measure.*

Convinced that the weather readings are favorable, the team reviews maps and burn plan, checks radios, and dons gear. The temperatures are moderate, but the gear



*Coordinating burn sections, property perimeters, meeting points.*



*Rob sets test to check fire speed and direction.*



## WILLIAMS TRACT CONTINUED

With everything checked, double-checked, tested, and all personnel prepared and in place, Rob gives the go-ahead to Jesse and Damian, who begin the process of setting the fire. Starting slowly, and carefully watching speed and direction, Jesse moves further and further along, following instruction from Rob.



*Jesse*



*Damian*

As the fire expands and spreads, the entire team moves quickly, watching, putting out fire where needed, and constantly checking smoke and fire movement. The heat builds, and I wonder how they function carrying the weight of the equipment and wearing the protective clothing.



*The fire moves up along the roadside, site of the *Echinacea laevigata*. The smoke stays off the road!*



## WILLIAMS TRACT CONTINUED



*Damian cools off as the fire winds down.*



*The team responded to a call for help when fire jumped the fire line and started to burn. It was quickly put out.*

The team (Rob Evans, Lesley Starke, Jesse Phiillips, Damian Smith, and volunteer Kurt Schlimme) stayed with the fire, exhausted but still watchful. As it burned out, they would continue to watch for small fires to flare up through the afternoon and into the evening, before counting the job as finished.

We do not pay the NCCP staff anywhere close to what they are worth! And the volunteers are priceless.

*Photos: Kathy Schlosser*



Seven weeks later, the *Echinacea laevigata* is ready to bloom.

**Great job Rob, Lesley, Damian, Jesse & Kurt. And this was just one of several burns conducted this spring!**