Native Plant News

The Newsletter of the North Carolina Native Plant Society

Volume III, Issue 1 *February/March 2005*

Spring 2005 Mountain Field Trip May 13 – 15

What to bring: water, snacks, sunscreen/hat, sturdy walking shoes, insect repellent, field guides, binoculars, rain jacket, work gloves (for Friday afternoon volunteer work), rubber boots (for visiting Potato Hill Bog). To check local weather, visit **averyweather.com** (see the Banner Elk forecast). Bring your lunch for Saturday and we will picnic on the trail. Registration: $15 ($10/limited income). Visit ncwildflower.org to register, or complete the attached registration form.

Friday, May 13:
1:30 – **Meet** at the High Country Inn, Boone
2:00 – 4:30 – **Volunteer trail maintenance at Grandfather Mountain nature trails**
5:00 – 7:00 – **Dinner** own your own at a local restaurant or the High Country Inn
7:30 – **Socializing** by the fireplace at the High County Inn

Saturday, May 14:
8:30 am – **Meet** at the High Country Inn, Boone
9:00 - 4:30 – **Nuwati Trail on Grandfather Mountain**
6:00 – 7:00 – **Dinner** at the High Country Inn, Trophy Room
7:00 – 8:30 – **Presentations & Discussion** , Trophy Room
8:30 – 9:00 - **Plant Auction** Trophy Room

Sunday, May 15:
8:30 am – **Meet** at the High Country Inn, Boone

9:00 – 12:00 **Potato Hill and Rich Mountain Bald**
12:30 – 2:30 **Potato Hill Bog and Seeps** (optional, depending on interest)

Field Trip & Discussion Descriptions

Hotel Information - **High Country Inn**, 1075 Highway 105, Boone NC. The landmark is the big waterwheel at the hotel site. The hotel is approximately 2 miles west on NC 105 from US 421 in downtown Boone area (or about 1 mile on 105 west of the US 321/105 intersection). The phone number is: 828-264-1000 or 800-334-5605. The price of $59/night ($64.90 with tax) includes continental breakfast for Friday and Saturday.

Please make your reservation before May 1 and state "NC Native Plant Society" rate.

You may extend your stay additional nights at the reduced rate of $39/night (available Sunday through Thursday). If you want to eat at the High Country Inn Restaurant, dinner is available on Friday from 5-8 PM or in the lounge from 11AM to 11 PM. There is a lot to see and do with nearby Blue Ridge Parkway, Grandfather Mountain, Linville Falls, and Boone Native Plant Garden on Appalachian State University campus. Our Saturday trip will be on the back side of Grandfather Mountain so you may want to visit the Swinging Bridge Visitor Center and Nature Museum on your own Friday morning or Sunday afternoon.

Volunteer trail maintenance at Grandfather Mountain nature trails, Friday 2:00 pm – Steve Miller (Grandfather Mountain Ranger) will lead our group in restoring hiking trails that were damaged by heavy rains during the past year. This will include restoring water bars to reduce erosion on the trails. Bring work gloves, a water bottle, and enthusiasm, and Grandfather Mountain will provide the tools.

Tater Hill

Nuwati Trail on Grandfather Mountain, Saturday 8:30 am – Peter Smith (NC Natural Heritage Program Biologist) will lead a tour of this scenic trail, which is owned by Grandfather Mountain and protected with a conservation easement held by the Nature Conservancy. Rare and interesting species at the site include trailing wolfsbane (*Aconitum reclinatum*), Fraser's sedge (*Cymophyllus fraserianus*), blue bead lily (*Clintonia borealis*), speckled wood lily (*Clintonia umbellulata*), Trillium (*Trillium* spp.), sweet cicely (*Osmorhiza claytonia*), pink lady's slipper (*Cypripedium*

Spring Mountain trip continued

Aconitum recinatum, White monkshood, trailing wolfsbane ©William S. Justice. Courtesy of Smithsonian Institution

acaule), Bent Avens (*Geum geniculatum*), and Appalachian twayblade (*Listera smallii*). Plant communities include Rich Cove Forest, Northern Hardwood Forest, Heath Bald, and High Elevation Rocky Summits. Bring along your plant books and plan to learn some mountain wildflowers. To learn more about Grandfather mountain, visit grandfather.com .

Dinner, Presentations & Discussions, Plant Auction - Saturday evening, 6:00 -9:00 pm:

Dinner – Dinner includes Herb-baked chicken (or vegetable stir fry), salad, roll, vegetables, rice, coffee or tea. $12.50 per person includes tax and tip. For special needs, people may order that evening from the restaurant menu. If we do not have a minimum of 20 dinners, then we will all order from the menu. The Inn allows dinner guests to bring dessert, so this would be a nice opportunity for the famous Wildflower Desserts to be showcased and enjoyed! Bring your favorite treat for sharing.

Cliff Face Ecology Presentation - Dr. Gary Walker (Appalachian State University) will discuss some of the fascinating lessons he and his students have learned about these rare and fragile communities rarely seen by biologists.

Avery County Inventory Presentation - Peter Smith (NC Natural Heritage Program) will discuss some of the highlights of his past year surveying the natural communities of Avery County, NC, including some new and surprising rare plant populations and significant natural heritage areas.

Plant Auction – Bring potted plants or seeds to donate to the plant auction. Proceeds will be given to the NC Native Plant Society general operating fund.

Potato Hill (a.k.a. "Tater Hill") and Rich Mountain Bald – Sunday 8:30 am Dr. Zack Murrell (Appalachian State University) will lead a morning tour of this pair of peaks, which are over 5000 feet in elevation and composed of amphibolite. Open grassy meadows on both peaks may represent remnants of Grassy Bald communities, though grazing has altered the communities. Most of the mountain is covered with forest communities. Good examples of uncommon Northern Hardwood Forest, High Elevation Red Oak Forest, High Elevation Birch Boulderfield Forest, and Rich Montane Seep plant communities are present. A large collection of protected rare plant populations are present, some in the forests, some confined to the open meadows, some occurring in both. Species include wood lily (*Lilium canadense*), Gray's lily (*Lilium grayi*), American speedwell (*Veronica americana*), golden tundra moss (*Rhytidium rugosum*), Schweinitz's ragwort (*Senecio schweinitzianus*), mountain bittercress (*Cardamine clematitis*), tall larkspur (*Delphinium exaltatum*), and meehania (*Meehania cordata*), among others. The peak of Potato Hill includes a High Elevation Rocky Summit containing spreading avens (*Geum radiatum*), Roan Mountain bluet (*Houstonia montana*), wretched sedge (*Carex misera*), and Appalachian club-moss (*Huperzia appalachiana*). *Due to road conditions, a 4x4 vehicle is necessary to access the bald. Please bring one if you have it or plan to carpool with others that do. We'll make sure that everyone who wants to go to the bald can get there.*

Potato Hill (a.k.a. "Tater Hill") Bog and Seeps – Sunday 12:30 pm (This trip is optional, depending on interest) Dr. Zack Murrell (Appalachian State University) will lead an afternoon tour of Potato Hill Bog and Seeps, which is owned by the NC Plant Conservation Program and managed by Appalachian State University. Wear your rubber boots for this hike (you are likely to get your feet wet)! This site is centered on a gently sloped high elevation valley and includes two exemplary Southern Appalachian Bogs (one of the rarest plant communities in NC). A number of excellent Rich Montane Seep communities are scattered in the site, along with good quality Acidic Cove Forests and Rich Cove Forests. The site supports a cluster of rare plant species, including long-stalked holly (*Ilex collina*), one of only three extant populations in the state. A large population of Gray's lily (*Lilium grayi*) occurs within the site, but we will likely visit before blooming begins for the season. A sizeable population of trailing wolfsbane (*Aconitum reclinatum*) is present east of the bog. Populations of cranberry (*Vaccinium macrocarpon*) and American fly-honeysuckle (*Lonicera canadensis*) have also been reported.

Registration form enclosed – return by May 1, 2005

From the President: Share the magic of spring

Welcome Spring! What a wonderful time of year…the joy of seeing the first trout lily, the first spring beauty. Are the hepaticas blooming? Oh, yes! Anxiously we uncover the leaves from the wild ginger to find a whole nest of flowers. And along with the abundant bittercress, veronica, and henbits, we find a lone gorgeous bloodroot. The witch hazel is almost gone; the itsy bitsy female flowers on the hazelnut are fun to see with the eyepiece near the robust male catkins. The spicebush is pregnant in buds ready to explode. All this took place this week at the Botanical Garden in Chapel Hill, my back yard, the Margaret Reid Garden, and our triangle area/ Reid trip to the Triangle Land Conservancy Johnson Mill Reserve north of Chapel Hill.

I remember that sunny afternoon on February 27, 1991, when I found my first trout lily on the Black Creek Trail with my Saint Mary's friend Georgette as we started our new year's resolution to walk the greenways of Raleigh for exercise. We were hooked. Later that year we found a lone atamasco lily on the Buckeye Trail and identified it in Newcomb's wildflower guide at home.

Fifteen years earlier in 1976 my colleague Harriet Ammann took me on my first wildflower walk and rescue on Ebenezer Church Road at a bridge crossing that was going to be expanded. I saw my first wildflowers and attempted to rescue the delicate windflower that didn't survive. Nonetheless that was my first wildflower experience and I am so grateful that Harriet encouraged me to go to the springtime woods with her.

Even though it took me 15 years to repeat the experience once again, Harriet opened my eyes to the magic of springtime ephemerals. It was that same 1991 when I met TLC trip leader and NCWFPS president Benson Kirkman at the March White Pines trip and joined the Wildflower Society as a lifetime member.

It takes that special person to open our eyes to the whole new world of tiny spring ephemerals. They are so easy to miss on a walk through the woods. I encourage you to invite a friend to walk in the woods with you to discover the joy of nature's treasures.

Every time we introduce another person to the delight of wildflowers, we widen the circle of humans who enjoy the cosmos more and realize how important it is to protect the Earth and her special places.

With our more frequent chapter walks and statewide events and your personal invitations, we have many opportunities to encourage our friends and neighbors to open their "wildflower eyes" to the magic of spring. It's a wonderful world.

Happy Spring Ephemeraling!

Alice Zawadzki
March 8, 2005

Erythronium americanum
www.biology.clc.uc.edu

NC Native Plant Society

Statewide meetings

May 13 – 15
Northwest NC Mountains

May 22
Board meeting

June 11
Annual Picnic
Hagan Stone Park, Guilford County

August 28
Board meeting

Oct. 7 – 9
Bog Botany
Coastal Wetlands

November 13
Board meeting

May 19 – 21, 2006
Holly Shelter/ Dunes Botany

See page 4 for Chapter meeting schedules

Hepatica americana

Calendars

All NCNPS members are welcome to attend any Chapter meeting. Just call or email ahead

Triangle Chapter

Meetings monthly on the third Sunday afternoon. Meet at the Reid Garden to carpool at 1:00 pm or meet at the site by time specified.

Sunday, February20: Lake Crabtree/Black Creek Bluff
1:30 pm

Sunday, March 20: Little Beaver Dam Creek
1:30 pm Granite Flats

Sunday, April 17 Upper Barton Creek Bluff
1:30 pm Adams Mountain

Sunday, June 19: Picture Creek
2:00 pm

Sunday, July 17: Meadow Flats, Chapel Hill
2:00pm

Sunday, August 21 Mitchells Mill
1:30

Sunday, September 18: Couch Mountain Slope
Triacic Basin , Orange County
2:00 pm

Contact Marlene Kinney (mkinney3@nc.rr.com) for details

Charlotte Chapter

If Charlotte/Mecklenberg area members will send their emails address to Jean, she will keep in touch with you and send updates for events.
Jean14424@aol.com

Sunday, April 24 1:30 - 3:00 Daniel Stowe Botanical Garden - We will have a personal tour of Stowe's garden by Doug Ruhren, the Head Gardener at the Daniel Stowe Botanical Garden. About 1/3 of the 4000 taxa in the gardens are natives of North American. This will be an opportunity to see natives grown as ornamentals in a garden setting. There will be a reduced charge of $6/ person to enter the gardens. Email me (jean14424@aol.com) or call me (704-588-8313) if you are interested, so I can get a rough idea of how many people will attend.

TBD - We will visit the Botanical Garden at UNCC for a tour of the Michaux Garden made up plants named by Michaux. The tour will be lead by Dr. Larry Mellichamp, Botanical Garden Director. After the tour, we can wander around the Glenn, which is a teaching forest, specializing in North Carolina native plants. There is no charge to visit the garden. Email or call me (see above), so I can make sure you get information when the date and time is firm.

Triad Chapter

Saturday, March 12 10:00 am
Mushrooms: log inoculation workshop with Jef Morgan
2321 Hilltop Dr., Jamestown 852-5492
To participate, notify Jef if you haven't already done so.
fee $10.00

Monday, March 21 7:00 pm
Mark Rose presentation, Trilliums and other wildflowers
Natural Science Center

Sunday, April 3 2:00
Beech Bluff Trail, Greensboro
2 miles, easy hike

Monday, April 185:30
Plant Study, location TBA
Saxifragaceae family characteristics

Saturday, May 7 9:00 am
Bear Slide Natural Area, Rockingham Co.

May 21 – 22
Chapter Coast/Orchids Trip
*Details on website (*www.groups.yahoo.com/group/triadncwfps)

Saturday, June 4 8:00 am
Morrow Mtn. Trail
3 miles, moderate hike

Monday, June 20 6:30
Plant Study, Tankersley Rd. Natural Area
Streamside/wetland sedge identification

Saturday, July 2 8:00 am
King's Pinnacle & Fern Nature Trail
Crowder's Mountain State Park
3.7 miles, moderate to strenuous

Monday, July 18 6:30
Plant Study, location TBA
Ranunculaceae family characteristics

Call Kathy (336-855-8022 to register, or email Kathyschlosser@aol.com)

Welcome New Members!

New members since the last newsletter:

Ken Quilty & Dena Shenk
Karen Roth-Batten
Trena Mc Nabb
Earl & Lynda Creutzberg
Bill Colvin
Ann Rimmer
Elsa Liner
Ted Scheick
Carlotta Santana
Bill Switzer
Bob Caviness
Mary Morrison
Lacy Dick
Ron Williams
Scott & Lysa Hartley
Lee Landis
Martina Haggard
Dawn-Michelle & Shannon Oliver
Nanette &James Manhart
Susan Andrews
Katrina Hayes
Alan Murray
Ron Williams
Don Clapp
Marie Updike
Hillie Garner
Pat Moskow
Jordan Metzgar
Carla Burgess

REMINDER TO ALL MEMBERS:

If you have changed your email address or phone number in the past year, please send corrections to mkinney3@nc.rr.com

If your lack of membership renewal for last year was an oversight and your renewal is not received by May 31, 2005 you will be dropped from our mailing list. We value your membership and if you decide not to renew, we would appreciate any comments that you think would improve the Society.

Thank You.
Marlene Kinney
Corresponding Secretary

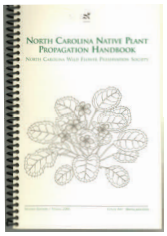
Deer hide their fawns whenever they have to leave them alone for a while. Their fawns have no odor yet, and instinct tells them to stay absolutely still.

A family in Bend, Oregon found a fawn on their front steps a few weeks ago and took the photo below. The white spots on the steps are apple blossom petals. The fawn stayed there all morning and, after 4-5 hours, Mom came to get it. Kudos to the people for leaving the fawn alone, knowing that Mom would be back.

Photo and story submitted by Diane Laslie

North Carolina Native Plant Propagation Handbook

Available to NCWFPS members for $13.00 each ($18.00 by mail)*
Regular retail price: $15.00 ($20.00 by mail)*
Wholesale price: $10.00 (minimum purchase: 5 copies)
(wholesaler responsible for collecting and paying taxes)



Send your orders to:
Marlene Kinney
4900 Richland Drive
Raleigh, NC 27612-3522

*Includes North Carolina taxes.

Point: Oriental bittersweet, *Celastrus orbiculatus*

Oriental bittersweet is at the center of controversy.

Oriental bittersweet (*Celastrus orbiculatus*), an invasive climbing vine, is considered a noxious weed by many states in the southeastern U.S. This species is a prolific seed producer and the seeds germinate readily, wherever deposited by birds and humans. As this aggressive vine spreads around N.C., it alters the structure and composition of our natural plant communities and displaces native species. Oriental bittersweet has become a nightmare for land managers and environmental stewards, especially in western North Carolina. It was added to the State's Noxious Weed List in 2003.

Due to complaints raised by crafters that use Oriental Bittersweet in wreathes, baskets and other "mountain crafts," the board of the North Carolina Department of Agriculture and Consumer Services (NCDACS) considered an amendment that reversed the 2003 listing. On October 21, 2004, the North Carolina Native Plant Society issued a letter to Britt Cobb (copy follows), Commissioner of the NCDACS outlining the potential threats that oriental bittersweet poses to our native flora and natural communities. We know that NCDACS also received letters from a variety of State, Federal and private land managers encouraging the continued listing of this species as a noxious weed.

On October 27, Commissioner Cobb replied to our letter (copy follows) stating Oriental Bittersweet would remain a Class C Noxious Weed, but the Department proposed "to expand the definition of Class C Noxious Weeds to include those weeds for which the Commissioner has determined that eradication is not feasible." In addition, they proposed to allow the sale of products made from Oriental Bittersweet in 18 mountain counties. Readers should note that our letter of response from Commissioner Cobb was dated and received before the Board of Agriculture actually met to make a decision on the issue. This seems to indicate that a decision had been made by the Commissioner before the Board had the opportunity to review the situation objectively and vote.

As of November 15, 2004, the NCDACS web site still contained information about bittersweet including the statement that "It is anticipated that prohibiting the sale and distribution of Oriental Bittersweet in North Carolina will greatly reduce its rate of spread and its impact on native plants and natural areas." This is consistent with the prevailing opinion within the conservation community in NC. Movement of the noxious weed within the listed counties continues to present many opportunities for the species to invade natural areas that do not already have this species, as all suitable niches have not yet been invaded in these counties.

It is disheartening to see that the State agency charged with administration of the North Carolina Plant Conservation Act and the protection of our native flora has made the decision to allow the continued use, sale and spread of a species that is widely recognized as invasive and has so much potential to negatively impact natural communities throughout North Carolina. Commissioner Cobb stated in his letter that "it is our objective to understand all aspects of this issue". We are eager to learn what measures the new commissioner will take to understand the issue further, and whether any resources will be allocated to conduct research on distribution, management, eradication, education, and finding alternatives to the sale of this noxious weed. What will NCDA do to ensure that their "ability to effectively track and monitor local sales" will no longer be restricted based on available staffing?

The NCNPS will continue to monitor the NCDACS's position on this issue. In the meantime, if you see materials made from this species for sale in areas outside the 18 counties listed in Mr. Cobb's letter, please contact David Patterson, NCDACS's Weed Specialist at 1-800-206-9333 or 919-733-6932.

editor

Copy of letter from NCNPS to Mr. Cobb:

Mr. Britt Cobb, Commissioner of Agriculture
N.C. Department of Agriculture and Consumer Services

Dear Commissioner Cobb:

The North Carolina Native Plant Society (also known as the North Carolina Wild Flower Preservation Society since 1951) learned recently that the Board of the North Carolina Department of Agriculture and Consumer Services (NCDACS) is considering an amendment to the North Carolina Noxious Weed Law that would reverse the 2003 listing of Oriental bittersweet (*Celastrus orbiculatus*) as a Class C Noxious Weed in 18 counties in western North Carolina.

Counterpoint: *Oriental bittersweet*

The North Carolina Native Plant Society is made up of over 300 professional and amateur botanists who are dedicated to the conservation of North Carolina's natural plant communities and native plant species. In addition, the Society is concerned about the threats that invasive species pose upon our native flora. Oriental bittersweet is recognized as a noxious weed by many state and federal government agencies and non-profit conservation organizations in North Carolina as well as other states. This aggressive woody vine smothers herbs and shrubs as it climbs high into trees. It produces large numbers of seeds that have the potential to be transported by birds as well as humans. This attractive vine, with seeds attached, is widely used to make wreaths and other decorations that are sold in the arts and crafts trade. While we support and admire the work of the mountain crafters in western North Carolina and we appreciate the economic development that they bring to the mountain communities, we are concerned that the use of oriental bittersweet in craft products has the potential to harm our native forests. As the crafts are transported throughout the state, seeds may drop off and germinate allowing Oriental bittersweet to spread throughout our natural areas, severely impacting natural communities much like kudzu, multiflora rose, Japanese honeysuckle, Chinese privet and a variety of other invasive species have already done. Once established, the species is difficult for land managers to control.

The North Carolina Native Plant Society believes that the potential for Oriental bittersweet to harm our natural communities far outweighs the benefits of allowing its sale. It would be inappropriate for the Board to consider the economic impact of restricting the sale of Oriental bittersweet without also considering the costs associated with its control as well as its economic impact on the ecotourism industry. The Board should also consider the value of our native species and healthy forests. Each spring, thousands of wildflower enthusiasts visit the North Carolina mountains to enjoy the spectacular displays of our native spring ephemerals. Oriental bittersweet has the potential to negatively impact the natural communities that support these wildflower shows and, therefore, the contribution to the economy that these visitors bring to western North Carolina.

On behalf of the North Carolina Native Plant Society, we strongly urge the Board not to support the proposed amendment to delist Oriental bittersweet as a Class C Noxious Weed in western North Carolina. Oriental bittersweet should remain listed as a noxious weed throughout North Carolina in order to protect our natural communities and prevent any additional environmental and economic impacts. We believe that a decision to remove oriental bittersweet from the list of noxious weeds would be in conflict with the NCDACS Plant Conservation Program's mission to protect the native flora of North Carolina.

Thank you for considering our comments on this very important matter. Please contact me by phone at 919-834-4172 if you have any questions regarding our position on this issue.

Sincerely, Alice Zawadzki, President

And a copy of Mr. Cobb's response:

October 27, 2004

Dear Ms. Zawadzki:

Thank you for your recent correspondence relating to proposed rule changes with Oriental Bittersweet in western North Carolina. Oriental Bittersweet remains a critical issue for us and it is our objective to understand all aspects of this issue. In adding Oriental Bittersweet to the original list of noxious weeds for North Carolina, the Board of Agriculture clearly understood the devastating effects this introduced plant has on our native plant populations.

After extensive dialogue with numerous citizens, NCDA&CS is proposing minor changes to our current Noxious Weed Rules. We feel these proposed changes will enable us to more effectively regulate this noxious weed in the state. In the proposed changes, Oriental Bittersweet will remain listed as a Class C Noxious Weed. We are proposing to expand the definition of Class C Noxious Weeds to include those weeds for which the Commissioner has determined that eradication is not feasible. Additionally, we are also proposing to define a regulated area for Oriental Bittersweet and movement of Oriental Bittersweet or any regulated articles infested with this weed from the listed counties would be prohibited: Alleghany, Ashe, Avery, Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, Mitchell, Swain, Transylvania, Watauga, Wilkes, and Yancey.

With these changes in place, NCDA&CS would expect to be able to focus its activities on those regulatory efforts designed to minimize the intermediate and long distance spread of this weed within North Carolina. At present, our ability to effectively track and monitor local sales is severely restricted based or available staffing and other program mandates. It is our assessment that preventing the long distance movement and establishment of this weed to new areas is perhaps more useful in meeting our overall program objectives. While sales of the plant would be permitted within the regulated area under the proposed regulations, we are aware that much of the material is sold to individuals outside the state. These out of state movements are fully dependent on plant pest regulatory requirements of the receiving state. Finally,NCDA&CS has committed to explore alternatives for economically devitalizing the seed of oriental bittersweet. Should successful treatment options be developed, certificates for movement would be issued only when the regulated articles have been treated under the direction of NCDA&CS.

Again, thank you for your concern and interest in Oriental Bittersweet.

Sincerely,

New Program! NC Native Plant Habitat Certification

The NCNPS has started a Native Plant Habitat Certification Program to recognize and honor people for planting and nurturing native plants in the landscape and to applaud the native plant gardener for showing in a small but significant way that a property can sustain an ecosystem which continues its connection with the natural world.

The NCNPS Native Plant Habitat Certification is an indication that applicants recognize native plants as an avenue to common sense gardening, as a link to working with nature, and as a path to environmental wholeness as well as a blessed haven for wildlife.

Achieving this certification indicates your commitment to preserving, enhancing, conserving and protecting our environment. It also reveals a desire to educate not only yourself, but your friends and neighbors as well, about the intrinsic values of developing a native plant habitat. Keep in mind that a garden is a work in progress. We know that as a conscientious effort is made to develop a native plant habitat, the garden will never become a final statement, but rather a continuing development connecting the gardener with nature.

Upon completion and approval of your application, a member of the Native Plant Habitat Certification Committee will visit your site as part of the certification process. At that time you will receive a personalized certificate suitable for framing. This visit will be coordinated with you prior to the visit (visits may be made when/where certifiers are available; otherwise certificate will be mailed).

If possible, please submit a photo of your garden at visit/certification time that reflects the native plant habitat. Photos will be placed in NCNPS Native Plant Habitat Certification Album and will be available for viewing at various NCNPS events.

Gardens certified as Native Plant Habitats will be announced at the NCNPS Annual Meetings.

The certification program application fee of $10.00 for NCNPS members and $20.00 for non-members, payable to NCNPS, is due with your completed application.

The application form is a set of questions and is available on the NCNPS website at:

www.ncwildflower.org

Print the form and send it to

Tom Harville
Native Plant Habitat Certification Coordinator
104 Birklands Drive
Cary NC 27511.

You can email Tom at tomhar@bellsouth.net or telephone at 919-851-5369.

Additional mementos of your certification are available at an extra cost:

A blasted granite marker for $45
A "virtual stone" marker for $25

Tom Harville

Support NCNPS and promote your business!

It is now possible for you to promote your business and support all of the activities of the N.C. Native Plant Society!

Business membership I $50
(includes one business card sized ad in one newsletter)

Business membership II $65
(includes business card sized ad in two newsletters)

Business membership III $75
(includes business card sized ad in three newsletters)

Business membership IV $80
(includes business card sized ad in four newsletters)

Sample ad

XYZ Nursery

Featuring a wide assortment of nursery propagated and grown native trees, shrubs, and plants

Retail shop • Display gardens • Mail order

1234 Anyroad, Anytown, Anystate
Telephone: (123) 456-7890

Hours: Mon – Sat 9:00 – 5:00
Sunday 12:00 – 4:00

Visit our website:
www.xyznativeplants.com

Featured Plant: Adiantum Pedatum, Northern Maidenhair Fern

Robert H. Mohlenbrock. USDA NRCS. 1992.

Adiantum pedatum is one of the loveliest and most graceful of all the ferns. The silhouettes of the fronds with their delicate silk-like leaflets appear as dainty long ladies tresses softly dancing with the slightest breeze. The fronds are fan-shaped or horse shoe-like arching branches from 12-24 inches long on slender erect stalks. The fronds are light to gray green and the glossy stems that support them are a dark reddish brown to ebony.

Culture:

This fern occurs in rich, shaded, well drained woodland soil, often in ravines or along moist rocky banks throughout much of North America.

Uses in the garden and landscape:

Maidenhair ferns may be planted as a specimen plant to provide contrast for the foliage of other large leaf woodland plants. The fine translucent foliage of the Maidenhair fern looks especially beautiful planted in masses and backlit or dappled with sunlight. Choose a north or northeast facing slope or level area with deep woodland, well-drained, rich soil and shade for planting.

Spore collection:

Spores are produced on the backs of the leaflets where the edges fold under and cover the sori (fruit dots on the backs of the blades). The sori become dark from midsummer to early fall as the spores ripen. Collect the fertile fronds when the sori are dark and the covering folds are beginning to open. Place the fronds in an envelope for a few days in a warm dry area before sowing the spores in moist sterile potting soil.

Propagation:

From spores or rhizome division.

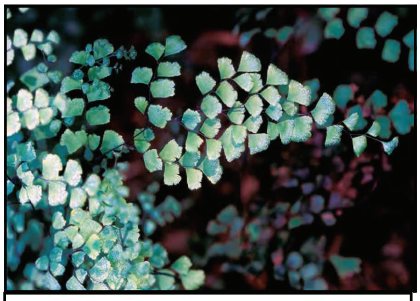
Historical medicinal uses:

Infusions and decoctions of maidenhair fern have been used to treat chest complaints such as asthma and for coagulation of bleeding.

Related Species: *Adiantum capillus-Veneris*

The Southern maidenhair or Venus hair fern is a related species. It is more common in the deep south and coastal counties, but also grows well in our Piedmont area in a protected site. It grows best in basic soil and is ideal for crevices of a rock wall or well drained cobble.

Marlene Kinney



Southern maidenhair fern. ©Thomas G. Barnes. Barnes, T.G. & S.W. Francis. 2004. *Wildflowers and ferns of*

Review of Fall 2004 trip: Quewhiffle and Weymouth Woods

The program looked great - a day in the field with Harry LeGrand and an evening program on Red-cockaded Woodpeckers and Michaux's sumac, both species near to my heart. I found two UNC-Charlotte graduate students, Sara Keisler and Lee Lehman, who also wanted to attend and the three of us left Charlotte at 5:00 am to share the day with the NCNPS. We arrived back in Charlotte at midnight, and every minute of the day was worth it. It's not often that you get to identify a species for Harry, which we did with *Sorghastrum elliottii*, but that wasn't the quite the highest point of the day. Sara, my graduate student, had been listening to me talk about RCWs for a whole semester and about 4:00 pm, she said, "I want to see a Red-cockaded Woodpecker."

That was all it took for Dale Suiter, Sara, Lee, and me to hop in the car and drive to Weymouth Woods to try to catch the colony near the headquarters as they returned for the day. We all sat on a log with a good view about 5:15 pm and waited. Lots of other birds in the trees, including Brown-headed Nuthatches. We knew we had to get supper and be back at the hotel for the evening program, so about 6:00 pm I asked if we were ready to go. Dale and Sara said, no, they had a feeling that something was about to happen. Sure enough, at 6:05 pm the noisy clan returned from their day of foraging, pecked around their cavity entrances, giving us great views, and then turned in for the night about 6:15 pm. Just barely enough time for a delicious Vietnamese meal before a great program.

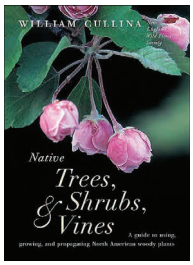
Mike Norris and Larry Barden

Susan's presentation on RCWs was so good, I invited her to UNC-Charlotte for a repeat performance, which she willingly did.

I don't see how NCNPS could do a repeat performance as good as 2004, but I'm going to be sure to give the 2005 field trip a college try.

Larry Barden
UNC-Charlotte

Book Reviews



Native Trees, Shrubs, and Vines: A Guide to Using, Growing, and Propagating North American Woody Plants

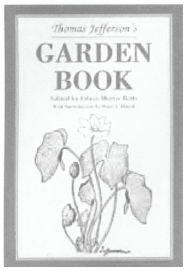
by William Cullina, the New England Wildflower Society p 2002 (354 pages, 8.5 x 11, hardcover, color photo illustrated, $40.00 retail, ISBN 0-618-09858-5)

Most gardening books appear to be repetitious clones of previous works borrowing heavily on the experience of others until they seem to all run together. It is refreshing when you encounter a truly original work based almost solely on the author's personal experiences. It is even more refreshing when you find that it is a pleasure to read as well. In most guides, I would find myself skipping to my favorites while ignoring the plants that I'm not likely to use within my landscape but I quickly saw that his anecdotal and experiential writings were well worth the time…so I read it from cover to cover, enjoying every bit on the way.

William Cullina is the Nursery Manager & Propagator at "Garden in the Woods", the gardening headquarters and showcase for the New England Wildflower Society in Framingham, Massachusetts. At first, I was skeptical that a New Englander would have a good handle on gardening in our neck of the woods - so many have been wrong before. But I was relieved to discover that he had lived in Durham, NC and had worked at Niche Gardens in Chapel Hill. He makes a point of keeping us in mind and addresses what will and what won't likely work in our southeastern gardens. Cullina's comprehensive volume covers more than a thousand native plants with genus-specific propagation notes written in easily-understood layman's terms. He discusses the various uses within the landscape as well as offering native substitutions to the commonly used exotics. Additionally, he has proffered an exhaustive source list for obtaining nursery-propagated native plants and seeds. More than two hundred excellent color photographs line the pages.

Native Trees, Shrubs, and Vines: A Guide to Using, Growing, and Propagating North American Woody Plants was written as a companion volume to his first book, *The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada* p 2000 (322 pages, 8.5 x 11, hardcover, color photo illustrated, $40.00 retail, ISBN 0-395-96609-4). The format is the same between the two volumes with William Cullina identifying the native origin areas and the culture necessary for success… and those wonderful detailed propagation notes. Approximately 200 genera and 1000 species are covered in the Wildflower volume. I would certainly recommend both of these books to our members since it is all "meat & potatoes" for native plant enthusiasts. I give them both five stars. Although there was a $40.00 retail price, I found brand new copies of both books for significantly cheaper from online book dealers. The Native Tree volume was $11.99 plus another $3.75 for shipping. The Wildflower volume was $22.00 and both arrived in less than a week.

Review by Alan Murray



Thomas Jefferson's Garden Book, 1766 – 1824, with relevant extracts from his other writings.

Published by the Thomas Jefferson Memorial Foundation, 1999, ISBN 1-882886-11-9. Annotated by Edwin Betts.

Thomas Jefferson lived from April 13, 1743 to July 4, 1826.

Sometimes you don't choose books to read—they choose you or maybe a friend chooses for you. That's what happened to me with this book. A friend gave me the book with the inscription "Who else in this entire world would actually enjoy this book!" Well now, that by itself is throwing down the glove to read it, and I have always marveled at the wisdom of our founding forefathers, so why not. Now I have to be truthful, I didn't read every word of the 662 plus pages but I read enough to be awed by Jefferson's intellect and by his interest—no, his love, of plants

You can note from the title that he started writing the Garden Book when he was 23 years old but during the same time he wrote the Farm, Account, Weather and Memorandum Books and more letters than you can imagine. Drawn from all these sources, this book gives you a look at the farmer and developer versus the politician. From the title and the period, I thought this would recount mostly native plants but was I wrong. Jefferson was interested in bringing in all sorts of plants into the States to see if they would grow here. It seemed to me that his primary interest was in producing food. For example he rated bringing olive trees and dry rice to South Carolina with writing the Declaration of Independence!

I did get a little bored reading the lists of plants but I had to read them. I would start skimming and a side note would grab my attention and would have to go back a really read the list to see what I missed. Now I'm really talking details here. Jefferson would count how many peas would fit into a certain measure or how much dung cows and pigs would produce. He tracked the weather. He laid out detailed plans for Monticello and its grounds. He was a detail fanatic.

Several things that stuck with me in this book: Jefferson planted radicchio on March 15, 1774—I thought this was some new salad fixin' when I first ate it in the late 1980's; He had a pet Mockingbird when he was President of the United States and he even let it eat out of his mouth—people have called me crazy when my Cockatiel eats out of my mouth; and Benjamin Barton proposed to the American Philosophical Society in May 1792 that *Podophyllum diphyllum* was misnamed and should be considered a genus and called *Jeffersonia*, in honor of the Secretary of State. Oh yea. He started Central College that was later named the University of Virginia.

So I have to say that this book is not so much about plants as it is a history lesson that we don't normally get in school. You get to see another side of a man who shaped all of our futures. It was hard reading in some sections but it was "Wow, I didn't know that" in other sections. All in all, a worth while read.

Tom Harville

What do we do?

Tom Harville and Marlene Kinney rescue pink lady's slippers from a site in Summerfield, NC.

Have you ever asked yourself this question?

First off, you say, why is Tom wasting our time with this? Because it helps us get new/more members so we can do more, and it's fun to see what we do!! Remember our bylaws? Our purpose is to "promote the enjoyment and conservation of North Carolina's native plants and their habitats through education, protection, propagation, and advocacy." We do this! But who knows it?

Sure, we have meetings and take trips/hikes to wonderful wildflower areas but what else? I know for a fact that our members have rescued plants for numerous arboretums, heritage gardens, and neat private gardens. We volunteer at these same places—right down to weeding. We also help other organizations, in a wildflower way.

Zac Hill

OK, so how can YOU get the word out? Well, we have two excellent avenues, the newsletter and our website. The problem is getting inputs. That's what this article is about.

Did you know that each of our chapters has a digital camera available—they do! You could borrow the camera from Jean Woods, jean14424@aol.com, Kathy Schlosser, Kathyschlosser@aol.com or Marlene Kinney, mkinney3@nc.rr.com. Then all you have to do is take the pictures, write a short narrative and titles for the pictures, send them to Mary Baumeister, mbb386@main.nc.us for the website and/or Kathy Schlosser for the Newsletter.

You don't have to have pictures but they really help. For example check out our web site at http://www.ncwildflower.org/helping/helping.htm for the first input into the "Members Helping Out."

Now for the "the rules" of what to send:

1) Pictures should have a description and credits that need to be mentioned.
2) An accompanying write up—it doesn't have to be much, witness the Girls in Science noted above. For the website it should be a plain text description in the body of the email. It can be a Word document for the newsletter.
3) For the website, if you're sending lots of big pictures, remember that Mary is using a dial up connection. 1MB takes her at least 6 minutes to download—on a good day. If you have more than three pictures, you can burn a CD and send it to her. We're not likely to put up 20 pictures of one day's outing, unless it's a major event. So pick out your best/most meaningful.
4) Mary needs to know where to hook the article in—that is Triangle chapter, Triad, Piedmont, Members Helping Out or photos of your favorite wildflower to add to our plants pages.
5) Newsletter photos should be 300dpi or better and website pictures should be 72 dpi.

Don't forget the "Featured Plant" articles for the newsletter, and they can also go on the web page. Select a wildflower and write up a short article (250 - 500 words). We will find the photos to go along with your article unless you already have one or more.

Dale Suiter studies reports at a board meeting

Just let Kathy Schlosser know which wildflower you would like to do. First come, first served. If you select one that has already been requested, she will let you know and you can select another.

AND, finally, give us your thoughts on a wildflower book, garden book or someone's article. Just like the plant articles, short and from your perspective.

Tom Harville

Rob Evans, Director of the North Carolina Plant Conservation Program

In June, 2004, Rob Evans replaced Cecil Frost as the director of the Plant Conservation Program, a branch of the Plant Industry Division in the N.C. Department of Agriculture and Consumer Services.

Rob has spent his entire professional career working in plant conservation and plant ecology. After briefly working at Tall Timbers Research Station in Thomasville, Georgia, he joined the U.S. Forest Service and worked on the Apalachicola National Forest in Florida, one of the southeast's hotspots for endemic plant species. While working on the Apalachicola National Forest, Rob conducted rare plant field surveys, participated in prescribed fires, and tried to minimize the impact of forestry and silvicultural operations on rare plants and their habitats.

After two years, he was promoted to the National Forests and Grasslands in Texas where he was responsible for the botany and ecology programs on four National Forests and two National Grasslands. In addition to "typical" rare plant work, he was heavily involved in the land management planning process, helped build an ecological classification system, and conducted extensive historical vegetation research in order to better understand vegetation dynamics and to foster and support restoration projects.

After approximately eight years in Texas, Rob joined The Nature Conservancy's southeast regional office in Durham, NC where he helped develop ecoregional conservation plans for much of the southeastern U.S. As these planning efforts were winding down, he moved to NatureServe's southeast regional office, a non-profit conservation organization that, working with its network of Natural Heritage Programs, develops information about rare and endangered species and threatened ecosystems. Rob helped build the U.S. National Vegetation Classification System, and was one of the primary authors of the Ecological Systems Classification for the southeastn U.S. Rob has co-authored a number of peer-reviewed scientific and other technical publications on topics ranging from the role of bark beetles in forest dynamics, to wildland fires, to insect capture by carnivorous plants.

As director of the State's organization whose mission is to conserve the native flora of North Carolina, Rob said he "hopes to build on the past success of the Program and lead it successfully into the future." The Plant Conservation Program is responsible for the listing and protection of North Carolina's endangered and threatened plant species. To-date, this office has acquired preserves protecting one-third of North Carolina's federally listed plant species and approximately 10,000 acres of habitat.

Rob lives in Durham with his wife Emily, a schoolteacher, and their three children Benjamin (age 9), Carolyn (age 9), Joshua (age 7). The whole family enjoys hiking on the Eno River, going to the beach, and a multitude of sporting events. Rob enjoys trying to instill a sense of appreciation for nature in his children, even though his own nature experiences (which include being lost in the Okefenokee Swamp, having hypothermia AND frost bite, being struck by lightning, dumped over the side of commercial fishing vessel in the Gulf of Mexico, and watching a fellow student extract his leg from an alligator's mouth) have been quite mixed!

He looks forward to more sedate experiences working with North Carolina's botanical and conservation community.

Rob can be contacted by telephone at (919) 733-3610 x 249 or by email at rob.evans@ncmail.net.

Dale Suiter

About the NC Plant Conservation Program....

With the passage of the Plant Protection and Conservation Act in 1979, the State of North Carolina established the NC Plant Conservation Program in the Department of Agriculture. The Plant Conservation Program is responsible for the listing and protection of North Carolina's endangered plants and threatened plant species. The Program's responsibilities include:

- Maintaining the list of Endangered, Threatened, and Special Concern plant species
- Enforcing regulations and issuing permits concerning state-listed plant species
- Carrying out field projects in biology, monitoring, and management of populations of listed species
- Providing educational materials to the public
- Monitoring trade in American ginseng

Bunched Arrowhead, *Sagittaria fasciculata*.
On NC and Federal Endangered lists.
Photo: Rob Gardner/NC Botanical Garden

Project Shows How Some Plants Grow Without Gravity

Newswise — Experiments on moss grown aboard two space shuttle Columbia missions showed that the plants didn't behave as scientists expected them to in the near-absence of gravity.

The common roof moss (*Ceratodon purpureus*) grew in striking, clockwise spirals, according to Fred Sack, the study's lead investigator and a professor of plant cellular and molecular biology at Ohio State University.

He and his colleagues noted this even in moss cultures grown aboard the second of the two space shuttle missions, STS-107, which had disintegrated upon its reentry in early 2003. Most of the hardware that contained the moss was later recovered on the ground, with some of the moss cultures still intact.

The researchers expected random, unorganized growth, as seen with every other type of plant flown in space.

"We don't know why moss grew non-randomly in space, but we found distinct spiral patterns," Sack said. He and his colleagues report their findings in the current online edition of the journal *Planta.*

Common roof moss is a relatively primitive plant in which certain cells, called tip cells, are guided by gravity in their growth. This gravity response is only seen when moss is kept in the dark, as light overrides gravity's effect.

Moss originates from chains of cells with growth only taking place in the tip-most cell of a chain. When grown in the dark, the tip cells grow away from gravity's pull – this gets the cells out of the soil and into the light.

The way these tip cells respond to gravity is exceptional, Sack said. In most plants, gravity guides the growth of roots or stems, which are made up of many cells. But in moss it is just a single cell that both senses and responds to gravity.

Common roof moss was grown in Petri dishes in lockers aboard two Columbia shuttle missions – the first in 1997 and the other in early 2003. Although most of the experimental moss hardware from this mission was later recovered on the ground, only 11 of the 87 recovered cultures grown on this flight were usable.

Astronauts followed similar experimental procedures on both flights. The astronauts chemically fixed the moss cultures before each mission reentered Earth's atmosphere. This process stopped all growth in the moss.

Control studies conducted at Kennedy Space Center in Florida used hardware and procedures similar to those used aboard each flight. However, these moss cultures were either kept stationary or turned at a slow spin on a clinostat – a machine that resembles a record turntable placed on its edge, and is used to negate the effects of gravity.

On earth gravity controls the direction of moss growth so thoroughly that it grows straight away from the center of the earth, just like shoots in a field of corn. In space, scientists expected the cells to grow erratically in all directions since there was no gravity cue.

Instead, the moss grew non-randomly in two successive types of patterns: The first pattern resembled that of spokes in a wheel, where the cells grew outward from where they were originally sown. Later, the tips of the filaments grew in arcs so that the entire culture showed clockwise spirals. The same patterns were found when the moss was grown on a clinostat on the ground.

Even with the limited data from STS-107, 10 of the 11 salvageable moss cultures showed this kind of strong radial growth and spiraling.

Ground controls grown in normal conditions of gravity grew as moss normally would on earth.

The results are unusual, Sack said, as this is the first time researchers report seeing this kind of plant growth response in space. "Unlike the ordered response of moss cells in space, other types of plants grow randomly," he said. "So in moss, gravity must normally mask a default growth pattern. This pattern is only revealed when the gravity signal is lost or disrupted.

"The fascinating question is why would moss have a backup growth response to conditions it has never experienced on earth? Perhaps spirals are a vestigial growth pattern, a pattern that later became masked when moss evolved the ability to respond to gravity."

Sack conducted the study with Volker Kern, who is now at Kennedy Space Center and was at Ohio State at the time of the study; David Reed, with Bionetics Corp. based at Kennedy Space Center; with former Ohio State colleagues Jeanette Nadeau, Jochen Schwuchow and Alexander Skripnikov; and with Jessica Lucas, a graduate student in Sack's lab.

Support for this research came from the Exploration Systems Mission Directorate of the National Aeronautics and Space Administration.

Source: Ohio State University Released: Wed 26-Jan-2005, 15:40 ET

Moss from space shuttle Columbia (STS -87) shows spiral growth patterns that emerged in low-gravity.

Miscellaneous items of interest from around the state…..

SPRING WINGS OVER WATER

If you can't make the NCNPS spring trip to the mountains, here's an alternative:

May 12-15, 2005

As the wildlife awakens after a cold and harsh winter in eastern North Carolina, expert naturalists will be gathering to take people afield in search of spring wildflowers, songbirds feeding young, and newly-emerged butterflies. The first annual Spring Wings Over Water festival will expose participants to wildlife, and the awakening natural world, during the lively breeding and nesting season. Who could resist the beautiful songs of the Prothonotary Warbler, the Indigo Bunting, and the Ovenbird (just to name a few)?

"The spring season offers so many unique opportunities to explore wildlife and their habitats, we just had to add a Spring Wings!" says Ann Marie Salewski, the Wings Over Water coordinator. "The weekend festival is just long enough to provide participants a spring complement to the fall Wings Over Water event." The program schedule offers spring counterparts to the traditional WOW field trips- such as the North and South Pond trips- along with some exciting new offerings.

There are *many* new additions to the spring line-up, including Ocracoke Wildflowers, a Bird Photography workshop, Hidden Lake Canoe, and Pelagic Birding Trips. Many offerings, like wildflower and butterfly trips, simply aren't possible in the fall. Spring birding trips will also offer courtship observation, and breeding bird song identification opportunities.

Come be a part of this exciting event! Registrations and more information can be found through the main web site www.wingsoverwater.com or by calling the Chamber of Commerce at (252) 441-8144.

VIEW PRESERVATION

The purchase of two tracts of land overlooking Saddle Mountain near the Blue Ridge Parkway will preserve views of the mountain and protect wildlife and water in the Mitchell River, the Conservation Trust for North Carolina says.
Read the full article:
http://www.newsobserver.com/news/story/2168900p-8550045c.html

TREE PRESERVATION

Trees have vital role in protecting citizens. Tuesday, March 01, 2005.
On Feb. 3, the Environmental Advisory Commission passed resolution No. 2005-01-EAC, which would have helped protect trees within the city limits of Greenville during the land-development process. The EAC felt it was important to bring to the city council's attention the important role trees have in protecting the health of the citizens of Greenville.
Read the full article:

http://www.reflector.com/opin/content/news/opinion/stories/2005/03/01/20050301GDRAlsentzer.html

LAND LOSS

The following Associated Press story, which raises more questions than it answers, appeared in a September 2004 issue of the Greensboro *News and Record*.

Winston Salem. Urban development in part has reduced the amount of timberland in the North Carolina Piedmont and mountains over the past 12 years, according to a report by federal researchers.

The forests in the 35 counties of the Piedmont region declined by 390,000 acres, or nearly 7 percent, according to findings based on an inventory by the U.S. Forest Service and surveys conducted by North Carolina's Division of Forest Resources.

In 21 western counties forest land dropped by 179,000 acres, or more than 4 percent, to about 3.8 million acres. Dan Smith, the deputy state forester, said that improved management of the state's timberland ensures that North Carolina's timber supply is adequate to meet consumer demands for wood products for years to come.

"While we are concerned about the conversion of timberland to urban uses, the surveys show that more timber is being grown than is being harvested," Smith said. "This demonstrates increased productivity on remaining forest lands. Overall, our forests are sustainable."

It would be interesting to know what kinds of trees are used as replacements, how the soil changes, and what happens to the insects, birds, and animals that are displaced.

ed.

INVASIVES!

compiled by Misty Franklin with review and input from biologists in the following agencies: NC Natural Heritage Program, NC DENR Aquatic Weed Control Program, NC Exotic Pest Plant Council, US Fish & Wildlife Service, The Nature Conservancy, NC Zoo, NC Botanical Garden, and UNC Herbarium.

This is the first edition of the NC Native Plant Society Invasive Exotic Plant list. The intent of the list is to rank exotic (alien, foreign, introduced, non-indigenous) plants based on their invasive characteristics, to educate the public and resource managers, and to encourage early detection of invasive exotic species so that a rapid response can be implemented when needed. We hope this list will help eliminate the use of invasive exotic plants in landscaping and restoration projects. The 2004 Tennessee Exotic Pest Plant Council Invasive Exotic Plant list was used as a model for organization of this list, but species listed and ranks assigned here are applicable to North Carolina. The NC Native Plant Society Invasive Exotic Plant List is considered a work in progress, and will be evaluated and updated as new information is gathered about these and other species. You may send your comments to

North Carolina Native Plant Society
Attn: Misty Franklin
Totten Center 3375 UNC-CH
Chapel Hill, NC 27599-3375

Background: Many introduced plants have become naturalized in North Carolina and some are replacing our native plant species. Not all exotic species are considered harmful. Invasive plants are usually characterized by fast growth rates, high fruit production, rapid vegetative spread and efficient seed dispersal and germination. Not being native to NC, they lack the natural predators and diseases which would naturally control them in their native habitats. The rapid growth and reproduction of invasive plants allows them to overwhelm and displace existing vegetation and, in some cases, form dense one-species stands. Invasive species are especially problematic in areas that have been disturbed by human activities such as road building, residential development, forest clearing, logging, grazing, mining, ditching, mowing, erosion control, and fire control activities.

Invasive exotic plants disrupt the ecology of natural ecosystems, displace native plant and animal species, and degrade our biological resources. Aggressive invaders reduce the amount of light, water, nutrients and space available to native species. Some cause increased erosion along stream banks, shorelines and roadsides. Some exotics hybridize with related native plant species, resulting in changes to a population's genetic makeup; others have been found to harbor plant pathogens, that can affect both native and non-native plants, including ornamentals. Others contain toxins that may be lethal humans and other animals. Some invasive plants compete with and replace rare and endangered species and encroach upon their limited habitat. Other problems include disruption of native plant-pollinator relationships, tree and shrub mortality due to girdling, reduced establishment of native tree and shrub seedlings, reduction in the amount of space, water, sunlight and nutrients that would be available to native species, and altered fire regimes. Invasive plants also cause economic losses and expenditures each year for agriculture, forestry, and roadside management.

Our native fauna, including insects, birds, mammals, reptiles, fish and other animals, is dependent on native plants for food and shelter. While some animals can feed on a wide number of plant species, others are highly specialized and may be restricted to feeding on several or a single plant species. As exotic plants replace our native flora, fewer host plants are available to provide the necessary nutrition for our native wildlife. In some cases, invasive plants replace nutritious native plant foods with lower quality sources. Each exotic plant is one less native host plant for our native insects, vertebrates and other organisms that are dependent upon them.

It is important to document the spread of invasive exotic plants into natural areas. When invaders are found outside of landscape plantings, they should be recorded and voucher specimens should collected for donation to an herbarium.

To reduce invasive plant invasions, we must approach the problem in a variety of ways: stop planting them, prevent accidental introductions, manage existing infestations, minimize disturbance to forests, wetlands, and other natural communities, and learn to work with (rather than against) natural systems and cycles.

A list of plants known to be invasive in North Carolina is enclosed with this newsletter. Watch the NCNPS website (www.ncwildflower.org) for updates.

Rank 1 – Severe Threat: Exotic plant species that have invasive characteristics and spread readily into native plant communities, displacing native vegetation.

Scientific Name	Common Name
Ailanthus altissima (Mill.) Swingle	Tree of Heaven
Albizia julibrissin Durz.	Mimosa
Alliaria petiolata (Bieb.) Cavara & Grande	Garlic-mustard
Alternanthera philoxeroides (Mart.) Griseb.	Alligatorweed
Celastrus orbiculatus Thunb.	Asian bittersweet
Elaeagnus angustifolia L.	Russian olive
Elaeagnus umbellata Thunb.	Autumn olive
Hedera helix L.	English ivy
Hydrilla verticillata (L.f.) Royle	Hydrilla
Lespedeza bicolor	
Lespedeza cuneata (Dum.-Cours.) G. Don	Sericea lespedeza
Ligustrum sinense Lour.	Chinese privet
Lonicera fragrantissima Lindl. & Paxton	Fragrant honeysuckle
Lonicera japonica Thunb.	Japanese honeysuckle
Microstegium vimineum (Trin.) A. Camus	Japanese stilt-grass
Murdannia keisak (Hassk.) Hand.-Mazz.	Asian spiderwort
Myriophyllum aquaticum (Vell.) Verdc.	Parrotfeather
Paulownia tomentosa (Thunb.) Sieb.& Zucc. ex Steud.	Princess tree
Phragmites australis (Cav.) Trin. ssp. australis	Common reed
Polygonum cuspidatum Seib. & Zucc.	Japanese knotweed
Pueraria montana (Lour.) Merr.	Kudzu
Rosa multiflora Thunb.	Multiflora rose
Salvinia molesta Mitchell	Aquarium water-moss
Vitex rotundifolia L.f.	Beach vitex
Wisteria sinensis (Sims) DC	Chinese wisteria

Rank 2 – Significant Threat: Exotic plant species that display some invasive characteristics, but do not appear to present as great a threat native communities in NC as the species listed in Rank 1.

Scientific Name	Common Name
Ampelopsis brevipedunculata (Maxim.) Trautv.	Coralberry
Arthraxon hispidus (Thunb.) Makino	Hairy jointgrass
Bambusa spp.	Exotic bamboo
Berberis thunbergii DC	Japanese barberry
Broussonetia papyrifera (L.) L'Her. ex Vent.	Paper mulberry
Centaurea biebersteinii DC	Spotted knapweed
Clematis terniflora DC (=C. dioscoreifolia)	Leatherleaf clematis
Conium maculatum L.	Poison hemlock
Coronilla varia L.	Crown vetch
Dioscorea oppositifolia L.	Air-potato
Eichhornia crassipes (Mart.) Solms	Water-hyacinth
Euonymus alata (Thunb.) Sieb.	Burning bush
Euonymus fortunei (Turcz.) Hand. – Mazz.	Winter creeper
Glechoma hederacea L.	Gill-over-the-ground, ground ivy
Lamium purpureum L.	Henbit
Lespedeza bicolor Turcz.	Bicolor lespedeza, shrubby bushclover
Ligustrum japonicum Thunb.	Japanese privet
Ligustrum vulgare L.	Common privet
Lonicera maackii (Rupr.) Maxim.	Amur bush honeysuckle
Lonicera morrowii A. Gray	Morrow's bush honeysuckle
Lonicera ×bella [*morrowii* × t*atarica*]	Hybrid Bush Honeysuckle
Ludwigia uruguayensis (Camb.) Hara	Creeping waterprimrose
Lythrum salicaria L.	Purple loosestrife
Mahonia beali (Fortune) Carriere	Oregon grape
Miscanthus sinensis Andersson	Chinese silver grass
Morus alba L.	White mulberry
Myriophyllum spicatum Komarov	Eurasian watermilfoil
Nandina domestica Thunb.	Nandina
Persicaria longiseta (de Bruijn) Moldenke (=*Polygonum caespitosum* Blume)	Oriental ladies-thumb
Persicaria maculata (Rafinesque) S.F. Gray (=*Polygonum persicaria* L.)	Lady's thumb
P*hyllostachys* spp.	Exotic bamboo
Poncirus trifoliata (L.) Raf.	Hardy-Orange
Pseudosasa japonica (Sieb. & Zucc. ex Steud.) Makino ex Nakai	Arrow bamboo
Pyrus calleryana Decne.	Bradford pear
Rhodotypos scandens (Thunb.)	Makino jetbead
Rubus phoenicolasius Maxim.	Wineberry
Solanum viarum Dunal	Tropical soda apple
Sorghum halepense (L.) Pers.	Johnson grass
Spiraea japonica L.f.	Japanese spiraea
Stellaria media (L.) Vill.	Common chickweed
Veronica hederifolia L.	Ivyleaf speedwell
Vinca major L.	Bigleaf periwinkle
Vinca minor L.	Common periwinkle
Wisteria floribunda (Willd.) DC	Japanese wisteria
Xanthium strumarium L.	Common cocklebur
*Youngia japonica (*L.) DC.	Oriental false hawksbeard

Rank 3 – Lesser Threat: Exotic plant species that spread into or around disturbed areas, and are presently considered a low threat to native plant communities in NC.

Scientific Name	**Common Name**
Ajuga reptans L.	Bugleweed
Allium vineale L.	Field garlic
Artemisia vulgaris L.	Mugwort, common wormwood
Arundo donax L.	Giant reed
Bromus catharticus Vahl	Bromegrass, rescue grass
Bromus commutatus Schrad.	Meadow brome
Bromus japonicus Thunb. ex Murray	Japanese bromegrass
Bromus secalinus L.	Rye brome
Bromus tectorum L.	Thatch bromegrass, cheat grass
Buddleia davidii Franch.	Butterfly bush
Chicorium intybus L.	Chicory
Chrysanthemum leucanthemum L.	Ox-eye daisy
Cirsium vulgare (Savi) Ten.	Bull thistle
Daucus carota L.	Wild carrot, Queen Anne's-lace
Dipsacus fullonum L.	Fuller's teasle
Egeria densa Planch.	Brazilian elodea, Brazilian water-weed
Fatoua villosa (Thunb.) Nakai	Hairy crabweed
Festuca pratensis Huds.	Meadow fescue
Kummerowia stipulacea (Maxim.)	Makino Korean clover
Kummerowia striata (Thunb.) Schindl.	Japanese clover
Lysimachia nummularia L.	Moneywort, creeping Jenny
Melilotus albus Medik.	White sweet clover
Melilotus officinalis (L.) Lam.	Yellow sweet clover
Najas minor All.	Brittle naiad
Pastinaca sativa L.	Wild parsnip
Perilla frutescens (L.) Britt.	Beefsteakplant
Populus alba L.	White poplar
Senecio vulgaris L.	Ragwort
Setaria faberi R.A.W. Herrm.	Nodding foxtail-grass
Tussilago farfara L.	Coltsfoot
Vicia sativa L.	Garden vetch

Watch List A: Exotic plants that naturalize and may become a problem in the future; includes species that are or could become widespread in North Carolina. At this time, more information is needed.

Scientific Name	Common Name
Arum italicum P. Mill.	Italian lords and ladies
Buglossoides arvensis (L.) I.M. Johnston (L.) I.M.	Corn gromwell
Bupleurum rotundifolium L.	Hound's-ear, hare's-ear
Centaurea cyanus L.	cornflower
Echium vulgare L.	Viper's bugloss
Elaeagnus pungens Thunb.	Thorny olive
Hibiscus syriacus L.	Rose of Sharon
Hypericum perforatum L.	St. John's-wort
Ornithogalum umbellatum L.	Star of Bethlehem
Solanum dulcamara L.	Climbing nightshade
Verbascum thapsus L.	Common mullein

Watch List B: Exotic plant species that cause problems in adjacent states but have not yet been reported to cause problems in NC.

Scientific Name	Common Name
Acer platanoides L.	Norway maple
Akebia quinata (Houtt.) Dcne.	Fiveleaf akebia
Bromus inermis Leyss.	Smooth bromegrass
Cardiospermum halicacabum L.	Balloonvine
Carduus nutans L.	Musk thistle
Cirsium arvense (L.) Scop.	Canada thistle
Elaeagnus pungens Thunb.	Thorny-olive
Hesperis matronalis L.	Dame's rocket
Iris pseudoacorus L.	Pale-yellow iris
Lonicera tatarica L.	Tartarian honeysuckle
Melia azedarach L.	Chinaberry
Persicaria perfoliata (Linnaeus) H. Gross (=*Polygonum perfoliatum* L.)	Mile-a-minute
Pistia stratiotes L.	Watter-lettuce
Potamogeton crispus L.	Curly pondweed
Rhamnus cathartica L.	European buckthorn
Setaria italica (L.) P. Beauv.	Foxtail-millet
Setaria verticillata (L.) Beauv.	Bur-foxtail
Setaria viridis (L.) P. Beauv.	Green millet
Stachys floridana Shuttlw. ex Benth.	Florida Hedge nettle
Torilis arvensis (Huds.) Link	Spreading hedge-parsley
Tragopogon dubius Scop.	Yellow goat's-beard
Trapa natans L.	Water Chestnut
Triadica sebifera (L.) Small	Chinese tallowtree
Tribulus terrestris L.	Puncturevine
Xanthium spinosum L.	Spiny cocklebur

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Oak named America's National Tree

With Congressional passage and presidential signing of a historic bill, America has an official National Tree -- the oak. (*no species was named. ed)* Official recognition of oak as America's National Tree reflects a vote, hosted by The National Arbor Day Foundation and energetically supported by the California Oak Foundation, in which Americans of all ages and from all walks of life helped choose the country's newest national symbol. Advocates of the oak praised its diversity, with more than 60 species growing in the United States, making oaks America's most widespread of hardwoods.

"Having oak as our National Tree is in keeping with the wishes of the hundreds of thousands of people who helped choose this striking symbol of our nation's great strength," said John Rosenow, president of The National Arbor Day Foundation. "Naming a national tree is a cause for celebration for us all."

The Liberty Oak that stood at the Guilford Courthouse National Military Park from before 1781 until poisoned by vandals a few years ago.

When "more adventurous farmers moved westward, they followed not only bluegrass, but oaks. Where oak flourished, gravel beds were often the underpinning, and grain would grow there."

Millard Davis,
The Near Woods