

Friends of NC Plant Conservation

Field Notes

VOLUME I, ISSUE 1
SPRING 2009

WELCOME FRIENDS!



As the large Airbus 330 glides on its path to Charlotte over the tree tops, green wheat, and tall fescue fields of piedmont North Carolina, I am happy to be home. After almost a month in civil war ravaged Angola Africa, our landscape looks like heaven on earth. As citizens we not only have the opportunity but the responsibility to preserve the plant communities that make North Carolina's environment unique and help preserve a natural heritage for our children and their children.

The North Carolina Friends of Plant Conservation is a non-profit 501(c-3) organization with a mission to increase public awareness and understanding of North Carolina's plant conservation program, protect rare and endangered flora of the state, give citizens the opportunity to participate and promote the mission of the Plant Conservation program, to provide support for programs and activities of the North Carolina Department of Agriculture, and to financially support Plant Conservation Program activities in North Carolina.

We are a new organization, a group of people that would like to make a difference in our environment. An old saying advises, "think globally, act locally", this is an opportunity for all of us to really make a difference in our backyards and the world.

Once a plant and its habitat is destroyed, the loss is permanent, and the plant is forever gone. Please join us to make North Carolina Friends of Plant Conservation an organization that makes a difference for plant and habitat conservation.

Bruce Williams
President, Friends of Plant Conservation

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Rob Evans, Plant Ecologist,
NCSA&CS-Plant
Conservation Program

Inaugural Field Trip - Pondberry Bay

A couple of weeks ago, Rob Evans, Dan Bunce and another NCDA employee lent hands and backs to removal of privet and chinaberry at a site owned by another organization. In return, those folks will return the favor and provide assistance with removing turkey oaks from the Pondberry Bay Preserve, a 2,100 acre site in Sampson County, on April 3rd.

“Pondberry Bay/White Woods comprises a diverse longleaf pine ecosystem with uncommon to rare natural communities and several uncommon to globally very rare plants and animals. Most significant is a large population of pondberry (*Lindera melissifolia*), a Federal and State Endangered plant known currently from only three populations in the state. Among the rare animals are Federal and State Endangered red-cockaded woodpecker (*Picoides borealis*) and Federal Species of Concern Bachman’s sparrow (*Aimophila aestivalis*). Altogether, the site supports populations of six rare plants, seven rare animals, seven Watch List plants, and two Watch List animals. The site also contains one of the very few known occurrences of the Cypress Savanna natural community on the Coastal Plain east of I-95. The great majority of Pondberry Bay/White Woods is in Pondberry Bay Preserve, a dedicated state nature preserve managed by the N.C. Plant Conservation Program, within the N.C. Department of Agriculture and Consumer Services.” (from NC Natural Heritage Program).

You are invited to participate by helping with the turkey oaks. “If anyone volunteers to work, the 2 main activities would be chainsaw felling of small trees and squirting herbicide under direction of a certified applicator. There could also be some hand piling of cut brush. If anyone wants to spray or cut, they need to bring a saw with them; also, if anyone has a small spray bottle for herbicide (like 1-2 gallon sprayers) that would be a great help,” Rob says.

Then Rob and/or Laura will take us around to see some of this special site (otherwise unavailable for visits without permission) and the endangered pondberry, *Lindera melissifolia*, known to be in only 3 sites in North Carolina.

Friday, April 3rd

RSVP to kathyschlosser@triad.rr.com or Rob.Evans@ncagr.gov if you plan to attend.



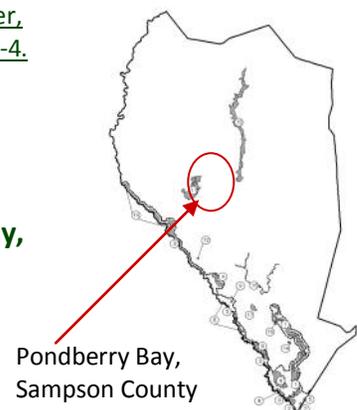
Lindera melissifolia. Photo by Rob Evans, NCPCP

To carpool: Meet at Raleigh Farmer’s Market at 7:30 a.m. (I-40, exit at Farmer’s Market/Lake Wheeler Road). Left onto Lake Wheeler Road, Left onto Centennial Pkwy., right into Farmer’s Market. Look for us in the first parking lot on the right.

To meet at the site, 9:00 am: Take 421 to Spivey’s Corner, keep your eyes open for Rt. 242 (toward Salemburg and Roseboro), turning right (south) onto 242. When you get just about outside Salemburg, watch for Howard Street, and turn left. Follow Howard Rd. to White Woods Rd. (right turn). ABOUT 2.5 miles down, you will see a large powerline that crosses the road. Look for a wide sandy area where you can park. This is a gated entrance to the property on the west side of the road.

If you get out your Gazetteer, look on page 74, section B-4.

Bring a lunch, water, camera, work gloves, saw, spray bottle. Maybe some bugspray, too.



Pondberry Bay, Sampson County

NCPCP staff...

Rob Evans joined the North Carolina Plant Conservation Program in 2004. He is responsible for all aspects of the Program's efforts to conserve the imperiled plants of North Carolina. These efforts include establishing and managing a growing system of Plant Conservation Preserves, administering Federal Aid programs, serving as liaison with various Boards and Scientific Committees, developing North Carolina's list of endangered, threatened, and special concern plant species, and developing regulations pertaining to these imperiled plant species.

Before joining the Plant Conservation Program, Rob worked for NatureServe. In addition to extensive field sampling and data collection, he developed a classification of ecological systems for the southeastern United States, and was a co-author of the US National Vegetation Classification System.

Prior to that Rob worked for The Nature Conservancy where he helped develop several multi-state conservation plans across the southeastern US.

Before that he worked for the US Forest Service on the National Forests and National Grasslands in Texas dealing with endangered species, forest management activities, and land management planning.

Evans received a Bachelor of Science degree from Northland College in Ashland Wisconsin, where he received the 1st Sigurd Olson Fellowship Award, and a Masters of Science degree from Stephen F. Austin University in Plant Ecology. He has co-authored peer-reviewed scientific articles on topics such as the role of bark beetles in forest dynamics, fire ecology, and carnivorous plants, as well as countless other technical publications.

He lives in Durham with his wife Emily, and their three children.



A conversation on conservation...

A CONVERSATION

A Conversation with People who made a difference in Endangered Plant Protection, Sunday, January 4, 2009, 2 PM, NC State Museum of Natural Science

The invitation read:

Al Elder, Neil Lapp, and Howard Singletary, working at the Plant Protection Division in the NC Department of Agriculture, guided the creation of the NC Plant Protection Act of 1979, which laid the foundation for the protection of native plants in North Carolina. The NC Native Plant Society welcomes you to take part in this historical conversation.

The room in the Museum was busy with friends greeting one another and Alice creating an informal arrangement of chairs. At one end of the room sat three gentlemen with weathered faces and broad, warm smiles. These were our guests and featured speakers, Al Elder, Neil Lapp, and Howard Singletary. With little ado, Alice introduced them to the gathered group, and the conversation began.

The following is a record of their reminiscence of the days leading to the passage of the N.C. Plant Protection and Conservation Act of 1979.

* * *

Al Elder (AE): Ginseng regulation requirements of the Federal Endangered Species Act of 1973 provided the real impetus for the N. C. Plant Protection and Conservation Act of 1979. As we worked in the areas of plant protection and quarantines, which primarily dealt with pests and diseases, the problems associated with ginseng harvesting and sale became apparent.

Howard Singletary (HS): Parts of our duties included nursery inspection, especially regarding plant pests.

Neil Lapp (NL): Around 1900, U.S. laws were created for plant protection after cherry trees sent to the U.S. were found to be diseased. The Federal Plant Pest Act was designed to help states prevent the movement of uncertified plants which may harbor injurious pests and diseases.

Conversation continued...



Panax quinquefolius.

Photo: NCDA&CS

AE: The chestnut blight, around 1922, was another pest example that highlighted the need for regulations governing the movement of plants.

There was a lot of exploitation of native plant species in northwestern North Carolina, especially from the area of Grandfather Mountain to Roan Mountain. We had concerns that species would be harvested to extirpation. Other states were concerned because the plants moving through were not certified as pest-free.

With the implementation of the Federal Act, we needed regulations in North Carolina that would address these issues and facilitate the ginseng trade. This was a livelihood for many people, and the trade was going to continue. We needed a way to try to regulate those activities.

NL: After the Endangered Species Act, a gentleman in Arizona was pushing for ginseng to be listed to prevent its native collection. For wildcrafters, this was a looming problem, since at that time one pound of dry weight ginseng roots brought \$100.00. We were required to set up a program to monitor collecting—good luck!

In the mid-1970s, before we even had a botanist, we set up monitoring plots around western NC, and had great fun doing so. We found ginseng as far east as Wake County. We visited buyers and checked sizes and weights of roots.

We generally found 49-50 roots per pound, and found one root with 40 bud scars!

HS: Plant collecting in North Carolina was the root of our

nursery industry. Gardens of the Blue Ridge was the first nursery registered in North Carolina. Buying and selling was a secretive business, so special efforts were required for us to determine the extent of the business.

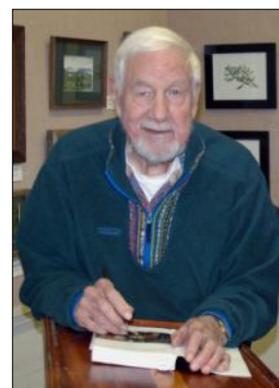
NL: Everyone had to sell collected ginseng roots through dealers. We don't know where they collected, but knew that much harvesting was done on National Forest property.

HS: Plant collectors stole from cultivated crops, too.

AE: It was the quantity of ginseng collection that spurred federal regulations. To keep commerce open in North Carolina, we needed a scientific basis for regulations. To get information on the status of plant species, a symposium was convened in 1974 by a group including the N. C. Museum of Natural History and the Natural Heritage Program. As a result of that meeting 400 species of concern—plant and animal—were identified. That symposium may have been the genesis of the cooperation that ultimately resulted in the Plant Protection and Conservation Act.

NL: In 1981, the 3rd National Ginseng Conference was held in Asheville.

AE: Using the NC Pesticide Act (of 1979-80) as a model for its use of a board and a scientific committee, we drafted the plant protection act. We started talking with legislators, then found that Ritchie Bell was working on something similar, as was the Natural Heritage Program. Ritchie's document was voluminous, and we managed to pare it down and work all the pieces together to come up with a concise document that would work to protect plants and address issues of commercial trade in plants.



Richie Bell. Photo by David McAdoo

HS: Sarah Ferst (Legislative Drafting Attorney) helped weave the Act together, including the category for Species of Special Concern. The draft was an amalgamation of the efforts of all the players at the time, which was important for moving the Act through the legislative process. Lists of specific plants were removed from the final draft, which created a flexible law that would function well as

Conversation, continued...

plants moved on and off the lists.

The Plant Protection and Conservation Act was passed in 1979. The program “maintains the list of Endangered, Threatened, and Special Concern plant species; enforces regulations and issues permits concerning state-listed plant species; carries out field projects in biology, monitoring and managing populations of listed species; provides educational materials to the public; and monitors trade in American ginseng. The Act also established the Plant Conservation Board, a regulatory board representing botanical, horticultural, conservation, forestry, and agricultural interests, and the Plant Conservation Scientific Committee, an advisory group to the Board and the Program.” (Plant Conservation Program, www.ncplant.com)

Ritchie testified before the legislative committee, and we found that there was very little controversy over the proposed legislation.

The Act prevented the sale of endangered and threatened plants, but including the Special Concern category allowed flexibility. Because of the unique nature of North Carolina’s plant diversity, and resulting commercial trade, there was a need for permits for propagation, sale of cultivated plants, and re-introduction of plants into the wild.

AE: We needed a regulatory agency, which the Department of Agriculture could provide, with its experience in administering regulations over pests and pesticides.

NL: Neither the Natural Heritage Program nor other agencies fully understood the regulatory process and did not want that authority.

HS: Ritchie Bell bought in after he went through the educational process of working with laws.

Alvin Braswell: The Scientific Committee created by the Act was designed to work with issues of biology, and the PCP Board with policies and to balance the two.

AE: I was on the first Board, with Dan Pitillo from Western Carolina University serving as the first chair.

NL: Jim Massey, Ritchie Bell, and Jim Harden served on the first Scientific Committee.

HS: Ginseng growing was a catalyst for getting plant protection regulations in place. State authority cannot supersede federal, so some plants that may be common here

appear on our lists, and some that are rare here do not appear on federal lists.

The first director of the Plant Conservation Program was hired, from South Carolina, but he never showed up. Rob Sutter was then hired, just before the Governor issued a hiring freeze, with an original budget of under \$50,000. This was 1979-1980.

Money for Natural Heritage Trust Funds became available in the 1990s.

Gene Cross: The authority for purchase of land for protection was included in the Act. When Cecil Frost came in as director of the Plant Conservation Program, the focus shifted to land acquisition. In 1996, the first five acres were bought in western North Carolina.

HS: It is truly gratifying to see the support that has evolved for issues of plant conservation.

Gene Cross: We now have 15,000 to 20,000 acres under protection. The Natural Heritage Trust Fund (some from license tag sales and a deed tax) and the Clean Water Trust Fund have added \$15 to \$20 million for land acquisition.

The Museum played a prominent role in the evolution of the Plant Conservation Program. It has a strong Friends organization, and when I began to work on the issue of lack of public awareness about the PCP, I looked to its Friends organization as a model, creating the Friends of Plant Conservation. Our Friends group had its first meeting in December, and the Board is now working to achieve its mission to raise public awareness of, and to support, the program.

HS: Since PCP is a program mandated by statute, it may be safer from budget cuts than one not mandated by law.

AE: The Plant Conservation Program is not a top priority at the Department of Agriculture, so a Friends organization is very important to lend support.

NL: This was an exciting and fun period in our lives.

* * * * *

As easily as it began, the conversation was over, the audience impressed not only with the congenial and generous natures of the speakers, but with the enormity of what, with little fanfare, they accomplished for North Carolina.

Special thanks go to Alice Zawadzki, past president of the N. C. Native Plant Society, for coordinating this event.

Fire!



Echinacea laevigata, Photo:
Laura Gadd, NCPCP

It was noon on a weekday in early February. The sun was shining, the temperature cold, and the humidity average, with a slight wind from time to time, just enough to keep a ground fire moving. “The duff [dead vegetative matter] in here is nearly a foot deep,” Rob Evans explained as he and other NC Department of Agriculture employees used drip torches to ignite the leaf litter. “We cut out a few of the small trees to open it up and need to clear out some of the leaf build up. I hope we’ll see more plants in the spring,” he said, expressing hopes that the small population of fire-dependent smooth coneflower, *Echinacea laevigata*, found recently, would be encouraged to spread.

As the fire burned low across the nearly ten-acre site, it occasionally flared up, consuming brown leaves on small saplings. Rob and his crew kept a watchful eye on the progress of the fire, working along the fire line to keep it on the correct path and assure that the fire was truly out after it moved on deeper into the wooded lot.



This Durham county property is a recent addition to the Eno Diabase Sill Plant Conservation Preserve. Preserves are permanently protected for the conservation of North Carolina’s most imperiled native plants and their habitats and are managed by the NC Plant Conservation Program. These diabase sill sites are home to a number of imperiled plants, including *Enemion biternatum* (Eastern isopyrum), *Delphinium exaltatum* (tall larkspur), *Baptisia minor* var. *aberrans* (wild blue indigo) and about 27 other rare species.

Diabase is a type of rock resistant to erosion; sill is the actual form of the rock—a horizontal layer that in the case of the Eno River area creates boulders that direct the flow of the river. Diabase is dark gray to black, sometimes with white crystals scattered throughout. Exposed to weather, the surface turns brown with a medium grain size. The rock resembles volcanic rock basalt, but it is coarser and contains glass.

The soil formed from these rocks is basic, with a high pH, and unusual for this part of the state. The soil is not compatible with many agricultural uses, which may have saved the plants as farmers found the area too poor to work profitably. Development, however, occurs independent of soil, so identifying and protecting some of these sites is imperative. Once acquired, responsible management includes steps to restore natural processes often repressed to meet the needs of civilization. Regular burning, to reduce shrubby undergrowth and thin canopy cover, is required by some plants for proper seed germination and plant growth.



Above: Drip torch
Below: Rob Evans tends the fire.

E. laevigata is rather easily identified by its lance-ovate leaves and glabrous stems and leaf surfaces. The stems also have few leaves, and the flower heads are often solitary. Ray flowers are pink to purplish, and disk flowers are dark purple. According to the Center for Plant Conservation, historic records place the plant in PA, MD, VA, NC, SC, GA, and AR*. Of those, 7 populations in VA, 6 in NC, 8 in SC, and 3 in GA remain—11 of these populations have less than 100 individuals and most are along roadsides (as in this Durham population) or trail edges.

That leads Rob to believe that reducing canopy cover and burning out undergrowth is essential since grazing by large mammals (the other major natural method for reducing overgrowth) is not practical.

We will be eagerly watching this small population over the next two years.

Drip torch and Rob Evans photos courtesy David Blevins (www.blevinsphoto.com)

Poached!

If there is one North Carolina wildflower that schoolchildren know, it is the Venus fly trap, *Dionaea muscipula* Ellis. They probably don't know it's a native wildflower, or that it is from North Carolina, but they know it "eats" insects.

If there is one person who does know it is a wildflower, and from North Carolina, it's a poacher. They know where in North Carolina to look, and have no fear and no hesitation about stealing them. Sometimes, when the stars line up just right, a poacher is apprehended.

An email went out in early February looking for volunteers from the Friends of Plant Conservation and the N.C. Native Plant Society. A poacher had been caught with 800 Venus flytraps and 49 pitcher plants, and manpower was needed to get them back in the ground.

A vigilant game warden had noticed a car parked on the side of the road alongside private, undeveloped land. Getting out of his car, Brandon Dean, Enforcement Officer with the N.C. Wildlife Resources Commission, followed foot tracks into the preserve, and there he found four men walking out with bags slung across their backs, machetes and pocket knives in hand. These were poachers, and the bags were full. "I have a license," said one of the men, "but no permission." He produced no license or permit. The men received citations, with a court date, and were free to go. The plants stayed with Dean and fellow officer Scott Pritchard.

A close-up photograph of a Venus flytrap with a small insect trapped inside its sticky, green, fleshy leaves. The trap is held in someone's hand.

...my little tipitiwitchett sensitive stimulates laughter in all the beholders. There was lately a French gentleman from Montreal which was so agitated that he could hardly stand and said it was enough to make one burst from laughing..."

*John Bartram 1742
In a letter to Peter Collinson about Venus flytraps*

They stood from one-half to three inches tall, their diminutive size far out of scale with the flurry of activity they generated. Fly traps grow to only as much as 6 inches tall. In spring, mature plants will send up a 12-inch flower stalk, making them visible above surrounding grasses and, being easy to spot, more susceptible to poaching. Experienced poachers, however, don't need to wait for the flowers. They know to look low, searching through grass and low-growing vegetation to find their prey.

Poachers sell the plants to nurseries, over the internet, and in roadside stands, often getting only a dollar per plant. As great a danger as poachers present (they can collect up to 1,000 plants in an hour), development is a greater threat.

Wetlands are drained to make more room in popular coastal areas for homes, commercial development, and roads. The land is usually scraped clear of vegetation. Land set aside for parks or left as 'natural areas' is protected from fire, which is, coincidentally, necessary to maintain proper habitat for many native coastal plants, including the tiny Venus fly traps, which can be crowded out by overgrowth of trees and shrubs.

Those participating in the re-planting felt great about what they were doing, putting the plants onto NCPCL land in areas where they may be safe from further theft (assuming they survive).

Two weeks after the flytraps were re-planted, another call for volunteers was sent out – this time to re-plant 1,300 flytraps recovered from poachers in the area of the Green Swamp.

Field Notes Calendar

Friends Field Trip:

Friday, April 3rd—Pondberry Bay

Friends of Plant Conservation Board meeting

April 21, 9:30 a.m. Raleigh

May 23: Anniversary of Carl Linnaeus's birth (1707—1778)

NC Plant Conservation Board 2009 Meeting Schedule *

March 12, 2009, Winston Salem, NC

May 4, 2009, Winston Salem, NC

August 17, 2009, Grandfather Mountain, NC

November 16, 2009, Winston Salem, NC

NC Plant Conservation Scientific Committee 2009 Meeting Schedule *

April 7, 2009, Chapel Hill

June 3, 2009, Chapel Hill

September 15, 2009, Location TBD

December 8, 2009, Location TBD

*If you are interested in attending any of these meetings, please notify Rob Evans at

Rob.Evans@ncagr.gov

The Plant Conservation Program and/or our partners submitted 3 requests to the Clean Water Management Trust Fund this year. If granted they would provide approximately 50% of the acquisition costs to add to existing Plant Conservation Preserves (Durham & Polk cos.), and create a new Preserve (Allegheny Co). We also requested additional funds for these projects, and a few others, from the Natural Heritage Trust Fund with applications submitted March 2nd. (totaling over \$7,000,000)

Rob Evans



Friends of Plant Conservation Board of Directors

L to R: Paul Hosier, Mark Rose, Kurt Schlimme, Benson Kirkman, Tom Harville, Bruce Williams, Mike Kunz, David Blevins, Kathy Schlosser. Not pictured: Marsh Smith, Andy Wood.

Field Notes is a quarterly publication of the Friends of the North Carolina Plant Conservation Program Foundation, Inc. The contents reflect the opinions of the Friends, and are not necessarily those of the NC Department of Agriculture. Articles, photos, and comments are welcome and may be submitted to the Friends at: 1060 Mail Service Center, Raleigh, NC 27699-1060 or via email to

kathyschlosser@triad.rr.com

Special Forest Products Focus of Final Rule

The Department of Agriculture is issuing a final rule governing the disposal of special forest products and forest botanical products from National Forest System land. The final rule was published in the Federal Register on December 29, 2008; the directives will become effective January 28, 2009.

Special forest products are products collected from National Forest System lands and include but are not limited to, mosses, fungi (including mushrooms), bryophytes, liverworts, roots, bulbs, berries, seeds, wildflowers, forbs, sedges, grasses, nuts, ferns, tree sap, boughs, bark cones, burls, transplants, pine straw, Christmas trees, firewood, posts and poles, shingle and shake bolts, mine props, rails, vegas, bow staves, and fence material.

Forest botanical products are naturally occurring and a subset of special forest products but exclude timber products such as, but not limited to, Christmas trees, firewood, and fence materials.

These regulations will allow the Forest Service to better manage its special forest products program:

- through commercial harvest and sale
- through free use, and
- implements a pilot program to charge, collect, and retain fees for forest botanical products, pursuant to the pilot program law under PL 108-108, Title III, Section 335, 117 Stat. 1312 (16 U.S.C. 528 Note).

The rule addresses fees, bidding, sustainability, and other issues with commercial harvest and sale of special forest products and forest botanical products. The new rule reflects existing procedures and practices.

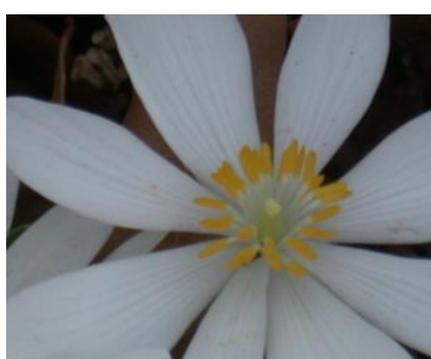
In the past, the Forest Service has used its timber sale regulations and certain parts of the Forest Service Manual and Handbook to sell special forest products. Public demand for both timber and non-timber special forest products has increased. Current regulations do not adequately address sell-

ing non-timber forest products. Given the growing demand and the need to ensure sustainability, the Forest Service feels that it is impractical to continue to rely on timber sale regulations for special forest products. Therefore, the agency has developed regulations that specifically apply to special forest products.

Historically, the Forest Service has granted limited free use of special forest products to individuals and Tribes with treaty and other reserved rights. In addition to honoring the treaty and reserved rights retained by Tribes, the Forest Service is committed to meeting their trust responsibilities with Tribes. This rule continues to recognize these rights and responsibilities. It allows for and encourages the use of memorandums of understanding and memorandums of agreement with regional and local Forest Service offices to maintain traditional cultural practices and culturally important places.

Traditional gatherers who may not be members of federally-recognized Tribes will have full access to special forest products as they have in the past. Permits will be required, however.

The rule establishes a pilot program for disposing of forest botanical products from National Forest System lands. The Forest Service's treatment of forest botanical products and special forest products differ only in the segregation of fees and different "personal use" and "free use" practices. The pilot program allows limited free use of forest botanical products and establishes a "personal use harvest level" for each product. If an individual's gathering is below the "personal harvest use levels," they don't have to pay fees.



More plant news from around the globe...

Medicinal plants in danger of dying out, according to conservationists

Source: Telegraph.co.uk, UK, 7 January 2009

Plantlife, the conservation charity, points out that traditional medicine is the primary source of health care for more people worldwide than western medicine – often because it is the only affordable treatment available. For example plants in east Africa are used to treat malaria and opportunistic infections caused by HIV Aids.

However around 15,000 species are under threat from pollution, over-harvesting and habitat loss, including Himalayan Yew, known as a source of anti-cancer drugs. The decimation of the plants is not only leading to a loss of traditional knowledge but could prevent a breakthrough in treating conditions like migraines, fever and even cancer.

Plantlife has compiled a report on the best way to protect plants for the future, following a three-year study of projects around the world involving medicinal plants. Projects included developing medicinal first aid kits in Uganda, establishing China's first ever community nature reserve for wild medicinal plants and promoting the cultivation of medicinal plants by local farmers in Nepal.

Alan Hamilton, the author of the report, said protecting medicinal plants is not only important for human health but for the surrounding ecosystem.

He said: "Focusing on medicinal plants has the potential to be a major motivating force behind nature conservation. Improving health, earning an income and maintaining cultural traditions are important to us all – wherever we live – and all three are involved in motivating people to conserve medicinal plants, and thus the habitats where they grow." For full story, please see: www.telegraph.co.uk/earth/earthnews/4162311/Medicinal-plants-in-danger-of-dying-out-according-to-conservationists.html

Medicinal plants at risk of extinction

A report by Botanical Gardens Conservation International, which represents botanic gardens from 120 countries, claims that as many as 400 species are at risk from over-collection and deforestation.

More than 50 per cent of drugs prescribed by doctors are derived from chemicals first identified in plants.

Experts fear that potential cures for diseases such as cancer and HIV may be lost before they can be discovered.

Plants at risk include yew trees, the bark of which is used in the cancer drug paclitaxel; hoodia, which is being used to develop weight-loss treatments; and autumn crocus, a natural treatment for gout which is also being developed to fight leukaemia.

Half of the world's species of magnolias, which contain the chemical honokiol, used in traditional Chinese medicine to treat cancers and heart disease, were also identified as being at risk.

The report expresses concern for the five billion people worldwide who still rely on traditional plant-based medicine rather than the chemical substitutes used by much of the developed world.

The secretary-general of the BGCI, Sara Oldfield, said: "Medicinal plants harvested from the wild remain of immense importance for the wellbeing of millions of people around the world. Over 70,000 plant species are thought to be medicinal."

<http://www.telegraph.co.uk/earth/earthnews/3322436/Medicinal-plants-at-risk-of-extinction.html>

Herbs wildcrafted (and cultivated) annually in the U.S. for wholesale distribution

2006 ginseng exports from U.S.:
30 tons dried root (More than 80 per cent of the forest-harvested ginseng comes from Virginia, Kentucky, Tennessee and North Carolina.)

Black cohosh, domestic use: 50 tons*
Bloodroot, domestic use: 200 tons*
Sassafras root bark, domestic use: 400 tons*
Enchinacea root, domestic use: 50 tons*

•These are old figures.

What will be left?