

The Turk's Cap

A DELAWARE NATIVE PLANT SOCIETY PUBLICATION

SPRING 98

The TURK'S CAP??

That's right, *The Turk's Cap*. This is the newsletter sponsored by the DNPS. The name was adopted from one of Delaware's more aesthetic native plants, the Turk's-cap Lilly (*Lilium superbum*). This newsletter will be distributed quarterly to provide seasonal information on native plant care, special events, DNPS articles, and answers to questions submitted to the editor. Send to the DNPS, c/o Douglas Janiec, 908 Pickett Lane, Newark, DE 19711.

MILFORD NECK REFORESTATION

The U.S. Fish & Wildlife Service and the Delaware Wild Lands are reestablishing native forest habitats in Kent County, Delaware.

Approximately 10,000 native tree and shrub seedlings will be planted, mostly in the Milford Neck area on Delaware Wild Lands property, with a small percentage of the seedlings going to a few smaller sites in other parts of Kent County. The Milford Neck planting sites will help to increase contiguous forest areas that have been fragmented, which will benefit migratory songbirds that require forest interior habitat. Native species being planted include, white oak, red oak, blackgum, persimmon, holly, and others.

This initial effort began during March 21 and 22. Volunteers are needed for April 4 and 5. For more information contact Rick McCorkle at (302) 653-9152, ext. 17.

PICK THE TURK'S CAP

Q. Can lawn chemical treatments such as fertilizer, lime, and pesticides hurt my gardens?

A. Absolutely, aside from direct contact damage these chemicals cause to garden vegetation, they may cause other serious problems. The bulk of these problem focus on the change in soil properties. For example, liming a lawn helps maintain a healthy near neutral soil pH (6.5 to 7.5). A large number of garden plants, especially most evergreen shrubs and trees, prefer a soil pH between 5.5 and 6.5. Improper pH may cause shrub to discolor, retard growth, and possibly die. If you elect to use chemical lawn treatments, take special precautions while apply the chemicals, and do not over apply. It is also recommended that you test your garden pH to ensure it meets the need of the vegetation.

HOW CAN I GET INVOLVED?

DNPS is open to everyone ranging from the novice to expert. One of the primary goals of the society is to involve as many individuals as possible. Our meetings are held on the third Tuesday of each month at 7:00, at the Aquatic Resource Education Center, Woodland Beach Wildlife Area, Rt. 9 (Hay Point Landing Road). The meeting location is subject to change. For directions or questions, call Keith Clancy at (302) 674-5187.

DNPS WEB PAGE

Starting in May, the DNPS will have a web page. The page will be able to be visited at www.delanet.com/~wildlife. Just click on the DNPS in the main page.

The DNPS Vision

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LOOK FOR THESE SPRING EVENTS

ASHLAND NATURE CENTER NATIVE PLANT SALE

MAY 2 & 3

DNPS's "A WALK THROUGH THE NEW WILMINGTON STATE PARK"
MEET AT THE ALOPOCAS DRIVE PARKING AREA. CALL CRAIG SMITH FOR DIRECTIONS AT 737-9335

APRIL 25

The Turk's Cap

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY SUMMER 98

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NATIVE PLANT HIGHLIGHT AMERICAN BITTERSWEET

American bittersweet (*Celastrus scandens* L., CELATRACEAE, staff-tree family) is a woody vine with a native distribution in North America that ranges from Canada south to Texas. Habitat for this plant includes thin woods, thickets, and the edge of woods and roadsides, preferring moist, rich soils. In Delaware, the American bittersweet has become a rare species and is known from only a few locations in the state. One reason for its rarity is likely due to the establishment and aggressive nature of the Oriental bittersweet (*C. orbiculatus* Thunb.), which can co-occur with the American bittersweet.

Oriental bittersweet is known for its colorful fruit, which persist into the winter and are used in floral arrangements. It was introduced into this country in the late 1800s from China and Japan where it is indigenous. Oriental bittersweet has escaped from cultivation and is now well established in natural areas from New England south to the Carolinas. Once established the bittersweet can displace native vegetation and disrupt interacting ecological processes. To correctly distinguish between the two species, flowers or fruit are needed. Flowers of the American bittersweet are found at the tips of branches and flowers of oriental bittersweet are found in the leaf axils. Before attempting control measures of Oriental bittersweet, be sure that it is correctly identified as the exotic and not the native.

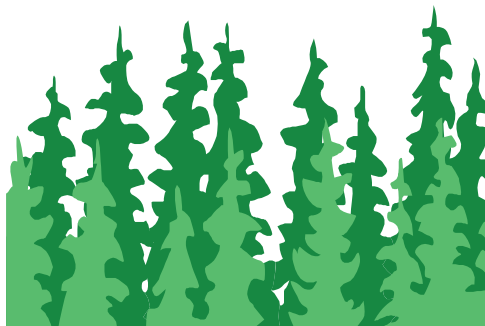
By William McAvoy, DE Natural Heritage Program

MILFORD NECK REFORESTATION

This past March and April, approximately 10,000 native trees and shrubs were planted on Delaware Wild Lands property in Milford Neck. The seedlings were planted in areas that were historically forested, but had been cleared and used for row crop production until its recent purchase by Delaware Wild Lands. Much of the land had become marginal crop land due to Northeast-driven high tides washing through the area which kept many low spots too wet to dependably yield successful crops.

Species planted included white oak (*Quercus alba*), swamp white oak (*Quercus bicolor*), pin oak (*Quercus palustris*), northern red oak (*Quercus rubra*), willow oak (*Quercus phellos*), black gum (*Nyssa sylvatica*), eastern red cedar (*Juniperus virginiana*), groundsel tree (*Baccharis halimifolia*) and marsh elder (*Iva frutescens*). Approximately 30 acres were planted, mostly in areas where reforestation would reduce forest fragmentation, increase forest interior, or increase the width of existing wildlife corridors. There were many volunteers, including students from the University of Delaware and Delaware Native Plant Society's own Keith Clancy, who helped to plant the overwhelming number of seedlings which were purchased by the U.S. Fish & Wildlife Service's Partners for Wildlife Program. Delaware Wild Lands Ecologist, Peter Martin, planted at least a couple thousand seedlings himself! In addition, Delaware Wild Lands contracted Garcia Forest Service to plant approximately half of the seedlings. Cost-sharing was also provided by the U.S. Department of Agriculture (USDA). All of the planted areas were enrolled in the USDA Conservation Reserve Program.

For more information about funding and technical assistance available through the Partners for Wildlife Program (now the Partners for Fish and Wildlife Program), contact Rick McCorkle at 302/653-9152, extension 17.



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LETTER TO THE EDITOR**EXOTIC ORGANISMS – AN EXECUTIVE ORDER FORGOTTEN**

In 1987, President Jimmy Carter issued Executive Order 11987, regarding “Exotic Organisms.” According to this executive order, Exotic Species are “all species of plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States.” This definition can be expanded more broadly to address ecoregions, such as the coastal plain of the eastern U.S. Under the Executive Order’s definition, species such as autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), Japanese honeysuckle (*Lonicera japonica*), Japanese black pine (*Pinus thunbergiana*) and bicolor lespedeza (*Lespedeza bicolor*) would all be considered exotic species. All of these species were imported from Europe or Asia. Yet, all of these species are allowed to flourish across Delaware’s landscape, and some of them are still deliberately planted and are among the many exotic species promoted by some government agencies (e.g., sawtooth oak (*Quercus acutissima*), red pine (*Pinus resinosa*) and white spruce (*Picea glauca*)).

Among other things, the executive order states that “executive (federal) agencies shall, to the extent permitted by law, restrict the introduction of exotic species into the natural ecosystems on lands and waters which they own...and shall encourage States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S..”

When I raised this issue and mentioned the 1997 executive order at a meeting last year, I was told that “an executive order dies when the President leaves office,” end of discussion! I recently had a discussion with another individual who is very proud of his Japanese honeysuckle hedgerow. When I expressed concern that it was spreading and would choke out and replace the native vegetation in the area, he said, “God put it here and he’ll take care of the land.” My response was, “no, God did not put it here. God put it in Asia, and man imported it to the U.S. where, because it didn’t evolve here, it is able to out-compete the native vegetation.”

I don’t believe that representatives from the public and private sectors are ecologically insensitive, but they are unwittingly homogenizing the landscape; replacing native with exotic species that are gradually transforming the native. Unique, native plant communities are becoming increasingly rare. The Nature Conservancy considers the Eastern Deciduous Forest one of the most endangered ecosystems in America. Delaware supports part of the Eastern Deciduous Forest. Except for open water and tidal marshes, most of Delaware was historically dominated by deciduous forest. Wildlife species evolved along with these native plant communities.

When we replace our native plant communities with exotic species, we alter the entire ecosystem including its wildlife. Some popular game species benefit from the planting of certain exotic species. However, most wildlife species, and especially many of our rare non-game species, increase in rarity along with the native plant communities upon which they are dependent. We have lost more than 75% of our native forest cover. Even worse, we are allowing exotic species to take over or alter the plant and wildlife communities of our remaining forests. When possible, we must proactively control, and preferably eliminate, exotic species from our Delaware landscape, restore native plant communities, and lobby our local, state and, federal governments and local nurseries to use and promote Delaware’s native plants.

By Rick McCorkle

ASIAN BEETLE THREATENS NATIVE TREES

A longhorn beetle is killing street trees in Brooklyn and Amityville, New York. Native to Japan, Korea, and southern China, *Anoplophora glabripennis* is a newcomer to North America. Longhorn beetles usually attack stressed, diseased, and dying trees. However, *A. glabripennis* seems to be an exception to this general rule and there is concern that this exotic insect will become a major pest in the United States.

In New York, beetles attack maple (*Acer*) trees including Norway, red, sugar, silver, and boxelder maple and sycamore maple. Horsechestnut (*Aesculus*), birch (*Betula*), aspen (*Populus*), and willow (*Salix*) are also attacked. Adults are shiny black with white blotches on their hardened outer wings. Their antennae are long with alternating black and white banding on each segment. Females lay eggs in oval crevices which they chew in the bark. Larvae bore into the tree and tunnel in the wood. Winding larval galleries weaken and may kill an otherwise healthy, vigorous tree. Upon emerging from a host tree, adults leave behind 3/8 to 1/2 inch diameter circular exit holes.

The USDA Animal and Plant Health Inspection Service (APHIS) and Forest Service, and New York City Parks Department are attempting to limit the spread of *A. glabripennis* until possible alternative control strategies are developed. Presently, the only effective method to limit spread is to cut infested trees and run all wood through a chipper. Total removal of mature trees from community forests or along streets is having an enormous impact in affected communities. Although the presence of this potentially destructive tree pest in Delaware has not yet been confirmed, it is imperative that we do not allow it to become established as it represents a significant threat to many of our native trees.

By Michael A. Valenti, DE Department of Agriculture Forest Service

DNPS WEB PAGE

The DNPS’s webpage is up and running. It will be updated at least quarterly. The page will be able to be visited at the main page of

www.delanet.com/~wildlife.

Just click on the DNPS in the main page. This page was developed to be an information source. We would like your input so that we may continue to provide you with useful and interesting information on Delaware’s native plants and plant communities. If there is any item you would like to have added, let us know. There are numerous links set in the page which directly tie you into the mail addresses of our many botanical experts.

**NATIVE PLANT COMMUNITY HIGHLIGHT:
PITCH PINE/BEACH HEATHER/PANIC GRASS
FOREST/WOODLAND COMMUNITY**

Pinus rigida/Hudsonia tomentosa/Dichantheium ovale var. addisonii
Forest/Woodland Community : a community profile

Introduction

Pitch pine is a widely distributed species that ranges from southern Maine to northeastern Georgia and comprises a number of different community types. These types range from the dwarf pitch pine plains found in New Jersey and New York to the ridge top pine barrens of the high Alleghenies. Oaks (especially scrub oak, *Quercus ilicifolia*, and blackjack oak, *Q. marilandica*) are typically associated with pitch pine.

It appears that pitch pine has significantly declined in, or is now absent from, Kent and New Castle Counties. The pitch pine/beach heather forest/woodland community is rare in Delaware, with less than six known sites. This community is best developed at Cape Henlopen State Park where it encompasses the largest intact and contiguous pitch pine forest community on the Delmarva Peninsula. Additionally, the pitch pine/beach heather/panic grass community contains an assemblage of state rare species and unique inclusion communities known as interdunal swales.

Community structure/composition

This community, characterized by an extremely sparse understory with an abundance of bare sand, is a relatively dynamic community influenced by shifting sands as a result of coastal aeolian processes; it occurs in somewhat sheltered backdunes. Dense shrub thickets may be present, but are usually restricted to slightly lower elevations, and are often arranged in a somewhat linear fashion, along narrow bands that run parallel to each other. These microhabitats are slightly lower in elevation and more mesic than adjacent higher land. Substantial micro-topography is present in the form of an undulating landscape of low, rolling sandy hills. In addition to the constant species, infrequent canopy associates for this community include Virginia pine (*Pinus virginiana*), eastern red cedar (*Juniperus virginiana*), and southern red oak (*Quercus falcata*). Subcanopy associates include the previous three species and sassafras (*Sassafras albidum*), blackjack oak (*Quercus marilandica*), post oak (*Q. stellata*), blackgum (*Nyssa sylvatica*), and black cherry (*Prunus serotina*). In the tall shrub stratum, common associates include wax myrtle (*Myrica cerifera*), bayberry (*M. pensylvanica*), American holly (*Ilex opaca*), highbush blueberry (*Vaccinium corymbosum*), and less frequently shadbush (*Amelanchier canadensis*). Low shrubs that may be present include black huckleberry (*Gaylussacia baccata*), dangleberry (*G. frondosa*), lowbush blueberry (*Vaccinium pallidum*), deerberry (*V. stamineum*), golden heather (*Hudsonia ericoides*), and the low-growing cranberry (*V. macrocarpon*). The former four species are typically infrequent in this community. The golden heather occurs as scattered individuals on sands in partially-shaded habitats, while the latter species (*V. macrocarpon*) may be found, in abundance, either on dry sands overtopped by pines or more frequently in low, open wetland depressions (i.e., interdunal swales). Vines can be prominent and include roundleaf greenbrier (*Smilax rotundifolia*), glaucous greenbrier (*S. glauca*), grape (*Vitis aestivalis*), and poison-ivy (*Toxicodendron radicans*). The rare bull-greenbrier (*S. bona-nox*) is infrequently encountered.

Herbaceous taxa are sparse but include the nominant species in the community name (*Dichantheium ovale* var. *addisonii*), beach pinweed (*Lechea maritima*), sweet goldenrod (*Solidago odora*), winter green (*Chimaphila maculata*), pink lady's slipper (*Cypripedium acaule*), and bracken fern (*Pteridium aquilinum*). Lichens and

bryophytes may also be present, including, among lichens *Cladonia squamosa*, *C. strepsilis*, *C. caroliniana*, *Lepraria incana*, among others, as well as the moss *Leucobryum albidum*.

Community dynamics/succession

Fire has been shown to play an important role in the maintenance of pitch pine forests, and that without fire these areas will eventually succeed to oaks or other hardwoods. At present, it is unclear what role fire plays in maintaining Delaware's pitch pine forests; there is no written record of fire in this community in Delaware. However, fire-scarred pitch pine trunks are frequently encountered, suggesting that fire may be important in the long-term maintenance of the pitch pine community here, as it is in other states. In addition, there are personal recollections of fires in pitch pine forests of CHSP that happened during military maneuvers in the 1960s, but these are believed to have been human-caused. The pitch pine/beach heather forest/panic grass woodland community, with its sparse understory and shifting sands, may represent an early successional stage.

Distribution

The *Pinus rigida*/Hudsonia tomentosa/Dichantheium ovale var. *addisonii* Forest/Woodland Community has an extremely narrow distribution in Delaware, being restricted to coastal habitats of Sussex County where it is found from Cape Henlopen to Fenwick Island. It is best developed at Cape Henlopen State Park where it covers several hundred acres. South of Cape Henlopen it is typically only found in small clumps of individuals scattered on the dunes. Apparently, Delaware represents the southernmost occurrence for this species/community on the Atlantic Coastal Plain.

Rare species

An assemblage of rare species are present in this community, including *Cladonia cervicornis* var. *verticillata* (Hoffm.) Ahti (a fruticose lichen); *Cladonia squamosa* Hoff. (a fruticose lichen); *Hudsonia ericoides* L. (golden heather); *Sideroxylon lycioides* L. [*Bumelia lycioides* (L.) Pers.] (southern buckthorn); *Smilax bona-nox* L. (saw greenbrier); *Sporobolus clandestinus* (Biehler) A.S. Hitchc. (rough dropseed); *Minuartia caroliniana* (Walt.) Matf. (pine-barren sandwort); *Arctostaphylos uva-ursi* (L.) Sprengel (bearberry); *Elaphe guttata guttata* (corn snake); *Ophedrys aestivus* (rough green snake); *Chordeiles minor* (common nighthawk); *Sitta pusilla* (brown-headed nuthatch). Many additional rare species occur within the inclusion interdunal swale communities and are not listed here.

By Keith Clancy, DE Natural Heritage Program

PICK THE TURK'S CAP

Q. I just moved into a new house and all of the numerous beds are overgrown. I'm thinking about tearing everything out and starting all over. Any suggestions?

A. Fight the urge. Beds gone-wild will often hold many unexpected surprises. I recommend tolerating the beds for the first year and see what emerges. Once you are sure what a particular plant is, then you can decide if you want to keep or remove it. If you aren't sure about a plant, let it grow until you can determine what it is. I also recommend considering transplanting if you like a plant but not its location.

I recently had a similar experience. To my surprise, not just the beds, but the yard, was full of many bulbs which appeared throughout the spring. I also had native rhododendron, cedar, dogwood, cherry, and hobblebush saplings appear. Some of these I kept, some I transplanted, and some I removed. Try to remember, you'll likely be there for a long time, so what's the hurry?

By Douglas Janiec, Wildlife Landscaping, Inc.

UPCOMING EVENTS

**7TH ANNUAL NATIVE PLANT SEMINAR
AND NATIVE PLANT SALE**
SATURDAY, AUGUST 29
DELAWARE
IRVINE NATURAL SCIENCE CENTER
STEVENSON, MARYLAND
410-484-2413

**MANAGING EXOTIC PLANTS IN THE EAST -
TOOLS OF THE TRADE**
SPONSOR: NATIONAL PARKS SERVICE,
USGS BIOLOGICAL RESOURCE DIVISION &
SEPTEMBER 16-18
LAUREL, MARYLAND
CONTACT: BOB HUSCHA (202) 282-1063

TREE SPREE 98
SATURDAY, OCTOBER 24
RED CLAY RESERVATION @ ASHLAND,

CONTACT: GARY SCHWETZ,
DELAWARE CENTER FOR HORTICULTURE
302-658-6265

**DELAWARE NATIVE PLANT SOCIETY
PLANT WALK AT IRON HILL PARK**
SATURDAY, JULY 25
PATUXENT WILDLIFE RESEARCH CENTER
IRON HILL PARK, 9:00 AM - TILL ??
CONTACT: KEITH CLANCY 302-674-5187

DELAWARE NATIVE PLANT SOCIETY
P.O. Box 369
DOVER, DELAWARE 19903

Stamp
Here

Place Address Here

The Turk's Cap

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY FALL 98

DNPS WELCOMES OUR NEWEST MEMBERS

July-September

Mick McLaughlin

Wayne and Rhonda Tyndall

Chris Winters

The Adkins Arboretum

Flavia Rutkosky

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SPECIAL NOTE: During our September meeting, it was decided that our monthly meeting locations will rotate between the New Castle, Kent, and Sussex Counties.

October meeting: New Castle County

November meeting: Sussex County

*December meeting: Kent County
(specific locations are to be determined)*

NATIVE PLANT HIGHLIGHT: GOLDENRODS

One of the most conspicuous of native wildflowers seen in Delaware during late summer and fall are the goldenrods. Goldenrods are within the genera *Solidago* and *Euthamia* (the flat-topped goldenrods). The Latin meaning of *Solidago* is "to make whole," referring to its ancient medicinal properties.

Goldenrods are fibrous rooted perennials with simple, alternate leaves. The inflorescence is made-up of flower clusters that are either plume, or wand like, axillary, or flat-topped. Goldenrods have both yellow ray and disk flowers, which are specialized types of flowers restricted to the Aster family. One species of goldenrod has white flowers (*Solidago bicolor*, white goldenrod).



Goldenrods are in the family Asteraceae (the Aster family) with North America having the highest diversity of goldenrods in the world. Of the nearly 100 species and varieties in the world, only one species is found in Europe

and Asia, a few in South America and the remainder occurring in North America. In Delaware, there are 25 species and varieties of the genus *Solidago* and 2 species and 2 varieties of the genus *Euthamia*. Of the 25 *Solidago* species in Delaware, 9 are thought to be rare in the state.

Goldenrods begin flowering in mid-summer and continue to bloom into the fall. One of the earliest goldenrods to bloom is *Solidago juncea* (early goldenrod), typically beginning in July. Next to be seen in flower is usually *Solidago odora* (sweet goldenrod). *S. odora* has officially been designated as Delaware's state herb, the only such designation in the country. Goldenrods are pollinated by insects and have sticky, heavy pollen that is rarely airborne. Goldenrods often hybridize, which can make identification difficult.

Goldenrods can be found growing in a variety of habitats, which include woods, old fields, swamps, salt marshes, and beaches and dunes. Goldenrods are especially abundant along country roads throughout the state.

William A. McAvoy

ALIEN WEED CAUSING INCREASING PROBLEMS

Mile-a-minute weed (*Polygonum perfoliatum*) is rapidly becoming a serious problem in the mid-Atlantic states. Annual vines of this nonnative, invasive plant form dense mats that can suppress native vegetation. The presence of this weed has been confirmed in New Castle and Sussex Counties. It has not been positively confirmed in Kent County but is suspected to occur there.

A member of the buckwheat family (Polygonaceae), mile-a-minute thrives in moist, well-drained, sunny habitats. Its pea-sized fruits are berry-like, fleshy, and blue when ripe, and are readily eaten and dispersed by birds and rodents. A unique feature of this species of *Polygonum* is a saucer-shaped sheath at the base of each bright green, triangular leaf. Mile-a-minute grows along roadsides, edges of woods, ditches, stream banks, wet meadows, and forest clearings. Rapid growth and a viney nature allow mile-a-minute to overtake native vegetation by smothering seedlings and out-competing mature plants for space, nutrients, and sunlight. Unless effectively controlled, we can expect mile-a-minute to spread throughout Delaware and become more noticeable in the next several years.

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Control of mile-a-minute weed is often difficult. For small infestations, plants can be removed by hand-pulling (the use of gloves is highly recommended) and should be destroyed before seed set in late summer. Larger infestations are more difficult to deal with and a herbicide might be needed for effective control. The long term solution to this oncoming problem may rely on classical biological control techniques that will reunite mile-a-minute with its natural enemies.

It may take many years to initiate a biological control program, but once successfully established, natural enemies have the potential to keep mile-a-minute at very low, tolerable levels. The USDA Forest Service, in cooperation with the Department of Entomology and Applied Ecology at the University of Delaware, is currently exploring the possibility of mitigating the effects of mile-a-minute through biological control.

Michael A. Valenti
Delaware Department of Agriculture Forest Service

LETTER FROM THE EDITOR **ONE OF DELAWARE'S MOST ENDANGERED ECOSYSTEMS**

At almost every meeting of the DNPS, a reoccurring discussion topic is associated with the growing concerns of Delaware's forests. Most people take this valuable and aesthetic resource for granted. However, we as community, usually unintentionally, are constantly eliminating and/or degrading this ecosystem. Forests, unlike wetlands, streams and rivers, and agricultural fields, have no federal or state laws which were specifically designed for their preservation.

The DNPS is in the process of identifying proactive and cooperative opportunities to help restore forests to Delaware. One such opportunity is supporting the Nature Conservancy. The Nature Conservancy seeks volunteers to help in collecting seeds of native trees and shrubs from forests at Milford Neck (in southeast Kent County) for a reforestation project at TNC's Milford Neck Preserve. Anyone interested in working on this project or needs more information, please call Mark Zankel at (302) 369-4146. Seed collecting will take place on Friday, October 16 and Saturday October 17.

It has also been noted that the biggest obstacle associated with reforestation efforts is labor. Plants can usually be acquired through different funding mechanisms. But when it comes to planting, warm bodies are hard to find. The DNPS is considering developing a volunteer on-call phone list for such efforts as they arise. Volunteering to be on the list is not a commitment, it just allows you to be contacted as a potential planter. Don't worry about not knowing how to plant trees. There will be experts present to train and help you; it's really simple. If you are interested contact Rick McCorkle at (302) 653-9152, ext 17.

From the Editor



PICK THE TURK'S CAP

Q. 'Tis the season to plant bulbs. So I thought a few useful tips might be appropriate.

A. Using bulb planters: Bulb planters are tapered metal cylinders from six to ten inches tall. They typically have depth markings on their sides and a D-shaped handle. The cylinder is pushed into the soil and removed, usually taking a plug of soil with it. The bulb is placed in the hole and the plug is replaced. Many gardeners prefer a trowel to the hand-held bulb planter. However, bulb planters are useful in tight spots, provided the soil is loose. I used one once, and broke it after five minutes. I've been a trowel man ever since.

A. When buying bulbs: Avoid "bargain mixes," which may just be a mix of bad or undersized leftovers. Always look for the largest bulbs of each type. They should be solid, not squishy. Don't buy bulbs with mold on their top crowns or basal plate (bottom). Solid plastic bags without holes are generally not good for bulbs. These containers create conditions ripe for these problems. Try those in net bags or loose.

A. When to plant bulbs: Popular planting times for bulbs is the fall, and secondly the spring. This is because most bulbs bloom in the spring. However, there are a number of bulbs that bloom in the summer and even in the early fall. As for planting times, many sources suggest and even sternly indicate that specific times are crucial. I have had success virtually any time of year. I have planted bulbs in the early summer, when I can get quality bulbs at clearance sales. However, never plant bulbs once the ground freezes.

I recommend putting a general, slow-release fertilizer on the ground surface after you plant bulbs. It provides a nutrient source for the storage root and feeder roots. The key factors associated with bulbs seem to be desiccation (dehydration), excessive moisture, and lack of nutrients. When you plant a bulb off-season, don't necessarily expect it to bloom until next year. It is not uncommon for a bulb to have a magnificent bloom the first year, then disappear. This is often because the first year the bulb used its storage root and was not able to replenish it. Small mammals, especially voles, may also decimate stands of bulbs. If your bulb blooms well through the second year, its chances of having many years of blooms greatly increase.

By Douglas Janiec
Ref.: (Ettlinger, 1990)

DNPS WEB PAGE

For those of you who may have noticed, little has been done regarding the updating of the webpage. But rest assured, it has not been forgotten. During the fall, extensive work will be performed on this site. In addition, the DNPS webpage page will have its own dedicated site. So please accept our apologies and look forward to a new and improved DNPS web site.

Until the updates are complete and for a limited time thereafter, you will still be able to access the website at the current address.

www.delanet.com/~wildlife.

NATIVE PLANT COMMUNITY HIGHLIGHT: YELLOW POPLAR FOREST COMMUNITY

(*Liriodendron tulipifera* Forest Community: a community profile)

Introduction

This stately tree, that names the community type, is also known as tulip tree, tulip-poplar, white-poplar, or whitewood, and is widely distributed throughout much of eastern North America. Ranging from Vermont to Michigan and south to Florida and Louisiana, *Liriodendron tulipifera* is most frequently found as an associate in several different community types and only rarely occurs in nearly pure stands. In Delaware, forest stands that support yellow-poplar in pure stands, or as the dominant tree, usually occur in small patches while elsewhere in its range (e.g., in the central and southern Appalachians) this community may form broad bands covering hundreds of acres.

Community structure/composition

The community is characterized by yellow poplar in pure stands or as the dominant canopy species. While old growth stands may reach 250-300 years old and as tall as 200 feet with trunks up to 8 feet in diameter, more often they are under 150 feet with trunk diameters of two to four feet. The latter dimensions typify Delaware's *Liriodendron tulipifera* forests some of which are known to be upwards of 200 years old. Infrequent canopy trees in this community type include *Quercus alba* (white oak), *Q. rubra* (northern red oak), *Q. velutina* (black oak), *Q. prinus* (chestnut oak), *Fraxinus americana* (white ash), and *Liquidambar styraciflua* (sweet gum). The sub-canopy may be diverse with such species as *Carya glabra* (pignut hickory), *C. tomentosa* (mockernut hickory), *Fagus grandifolia* (beech), *Sassafras albidum* (sassafras), *Nyssa sylvatica* (black gum), *Prunus serotina* (black cherry), *Acer rubrum* (red maple), and *Carpinus caroliniana* (ironwood). The shrub layer may include an abundance of *Lindera benzoin* (spicebush) and/or *Viburnum acerifolium* (maple-leaved viburnum), with lesser numbers of *Viburnum prunifolium* (black haw), *V. dentatum* (arrow-wood), *Euonymus americanus* (burning bush), *Cornus florida* (flowering dogwood), *Hamamelis virginiana* (witch-hazel), *Corylus americana* (hazel-nut), *Kalmia latifolia* (mountain laurel), *Vaccinium pallidum* (hillside blueberry), and *Rhododendron periclymenoides* (pinkster flower). Vines may be sparse or dense (usually in disturbed sites) and include native species such as *Toxicodendron radicans* (poison-ivy) and *Menispermum canadense* (moonseed), and invasive exotics such as *Rubus phoenocalisius* (wineberry), *Lonicera japonica* (Japanese honeysuckle), and *Celastrus orbiculatus* (oriental bittersweet). The herb layer may vary substantially from one forest stand to the next and includes some combination of the following species: *Arisaema triphyllum* (jack-in-the-pulpit), *Claytonia virginica* (spring beauty), *Podophyllum peltatum* (bloodroot), *Asarum canadense* (wild ginger), *Thelypteris hexagonoptera* (broad beech-fern), *Botrychium virginianum* (rattlesnake fern), *Circaea lutetiana* (enchanter's nightshade), *Sanguinaria canadensis* (bloodroot), *Erythronium americanum* (trout-lily), *Adiantum pedatum* (maidenhair fern), *Aster divaricatus* (white wood aster), *Agrimonia pubescens* (downy agrimony), *Sanicula canadensis* (snakeroot), *Cimicifuga racemosa* (black snakeroot), *Panax trifolium* (dwarf ginseng), *Viola* spp. (violets), *Polystichum acrostichoides* (Christmas fern), and *Cardamine concatenata* (toothwort), among many others.

Delaware's yellow poplar forests are generally found between 100 and 350 feet on steep boulder-strewn slopes of the piedmont. It is found on well-drained Glenelg and Manor loam soils. Less frequently the community may be found on floodplains on wet Hatboro silts. In these wetter soils associates in the yellow poplar floodplain forest may include species found in mesic to hydric habitats, such as

Platanus occidentalis (sycamore), *Acer negundo* (box-elder), *Alnus serrulata* (smooth alder) and *Salix nigra* (black willow).

Community dynamics/succession

The yellow poplar-dominated forest is a mid-successional community. The species is shade-intolerant and requires canopy openings, such as occurs when tree gaps form, to develop properly. As the trees that compose the yellow poplar forest age and reach senescence they are replaced by other hardwoods such as oaks, beech, hickories and maples. One reproductive advantage the yellow poplar has that helps it maintain itself in the forest is the ability of its seeds to remain dormant for several years in the leaf litter and humus. When tree fall canopy gaps form there may be a substantial yellow poplar seed bank present. Yellow poplar seedlings that develop from this seed bank grow rapidly and are able to out-compete other species.

Distribution

The *Liriodendron tulipifera* Forest Community is principally found on the steep and rocky slopes of the piedmont. It is primarily found in the Brandywine River valley. Exceptional examples are known from Brandywine Creek State Park (e.g., the "Tulip Tree Woods," and the Flint Woods; both described by Lorraine Fleming in Delaware's Outstanding Natural Areas and their Preservation, and in the White Clay Creek watershed (e.g., in the "Judge Morris Estate" forest). It occurs infrequently on the coastal plain.

Rare species

Numerous state rare plant species can be found in this forest community. A few examples include *Panax quinquefolius* (American ginseng), *Hydrastis canadensis* (golden seal), *Allium tricoccum* (small white leek), *Apelctrum hyemale* (putty-root), *Arnoglossum atriplicifolium* (pale Idian-plantain), *Galium lanceolatum* (Torrey's wild licorice), *Asclepias exaltata* (poke milkweed), *Botrychium matricariifolium* (chamomile grape-fern), *Corydalis flavula* (yellow corydalis), *Trillium cernuum* (nodding trillium), and *T. erectum* (ill-scented trillium).

Keith Clancy

DNPS TRIP TO IRON HILL PARK

On July 25, a small group of DNPS members met at Iron Hill to experience the floristic offerings this geologically and ecologically unique park. Under clear skies and ideal temperatures fellow DNPS members and expert botanists Janet Ebert and Jack Holt led a walk sharing their knowledge of the plants and geology of this site.

Iron Hill, like its neighbor to the northwest (Chestnut Hill), represents an "island of gabbro" surrounded by coastal plain sediments. The soils are primarily Neshaminy and Montalto silt loams. Iron Hill has been documented as an important pre-historical settlement and was known more recently (i.e., in the eighteenth and nineteenth centuries) to be a site important for its iron-ore deposits, which were mined extensively during this time. Unlike the surrounding coastal plain which ranges in height from 0-70 feet above sea-level Iron Hill ranges from 140 to 300 feet above sea level.

Thanks to Bev Barnett, DNPS's first member, for recording the plants that were observed. Because of her efforts I am able to somewhat accurately summarize the diversity of plants that we observed. She recorded more than 55 species, which represents only a small percentage of the total species found at Iron Hill Park, and only a few of the approximately dozen rare plants known from here were observed. A complete listing will be present on the web page in the near future.

Please join us on our next field trip (scheduled for Sunday, November 1, 1998) so you won't be wondering just what were all the other plants we saw on that field trip.

UPCOMING EVENTS

THE DNPS WILL BE PARTICIPATING IN THE 5TH ANNUAL TREE SPREE THAT TAKES PLACE SATURDAY, OCTOBER 24, 1998 FROM 10 A.M. TO 3 P.M. AT THE RED CLAY RESERVATION. THIS EVENT, WHICH IS A CELEBRATION OF THE BENEFITS OF TREES TO OUR ENVIRONMENT, IS HOSTED BY THE DELAWARE CENTER FOR HORTICULTURE, THE RED CLAY RESERVATION, MT. CUBA CENTER, AND THE NEW CASTLE COUNTY TREE COMMISSION. FOR MORE INFORMATION, CONTACT GARY SCHWETZ AT (302) 568-6265. THE DNPS PLANS TO HAVE A DISPLAY AND POSTER THAT INTRODUCES PEOPLE TO OUR SOCIETY AS WELL AS ILLUSTRATES THE IMPORTANCE OF TREES AND OUR FORESTS.

FIELD TRIP: THE DNPS WILL BE SPONSORING A FIELD TRIP ON SUNDAY, NOVEMBER 1ST. WE WILL EXPLORE ANCIENT ZERIC SAND DUNE RIDGES ALONG THE NANTICOKE RIVER AND ATLANTIC WHITE CEDAR AND BALD CYPRESS SWAMP FORESTS. FOR MORE INFORMATION ON MEETING TIME



**DELAWARE NATIVE PLANT SOCIETY
P.O. Box 369
DOVER, DELAWARE 19903**

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THIS IS THE LAST COMPLIMENTARY NEWS LETTERS FOR NONMEMBERS

The Turk's Cap

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY WINTER 98

A HEARTY WELCOME TO OUR NEW MEMBERS

October-December

Joe Arsenault

Delaware Department of Agriculture (Don Eggen)

John Graham

Carl & Dolores Solberg

HOW CAN I GET INVOLVED?

DNPS is open to everyone ranging from the novice to expert gardener/botanist. One of the primary goals of the society is to involve as many individuals as possible.

Presently, most of Society-related activities and efforts have been performed by only a select few members. The DNPS plans on becoming more active in a number of directions in 1999. Specific 1999 goals will be determined in the upcoming months, and they will be undoubtedly requiring involvement from more of our members.

The next newsletter will include a brief member-specific questionnaire (voluntary of course), the findings of which will be posted in the web page. This will facilitate communication and cooperation within the DNPS.

NATIVE PLANT HIGHLIGHT: EVERGREENS

During the winter months, native evergreen plants are conspicuous in the forests of Delaware and provide us with pleasant observations during snowy woodland hikes. Evergreen plants are those which remain green throughout the year and do not drop their leaves at the end of the growing season as deciduous plants do. The evergreen condition that many families and species of plants have is beneficial in many ways. Short growing seasons, especially in the north, limits the amount of energy available to a plant. Having evergreen leaves, photosynthesis can continue longer into the fall and start sooner in the spring. Being an evergreen species also eliminates the need for growing a whole new set of leaves each year, which allows the plant to channel more energy into reproduction. During the winter, water is often unavailable to plants since it is frozen. The thick, leathery leaves of most evergreen plants have a waxy coating that helps to cut down on evaporation and water loss from drying winds. Evergreen leaves also have the ability to channel water from within cell walls to spaces

between cells. This adaptation allows less damage to occur from the freezing and expansion of water during times of low temperatures. Another adaptation of evergreen plants is to increase the sugar content of leaf cells, this helps to lower the freezing point of the remaining water within the leaves. The following are just a few of the native evergreen plants that are frequently seen in Delaware's forests:

American holly (*Ilex opaca*)
Atlantic white cedar (*Chamaecyparis thyoides*)
Christmas fern (*Polystichum acrostichoides*)
clubmosses (*Lycopodium obscurum*, *Huperzia lucidula*, and *Diphasiastrum digitatum*)
eastern red cedar (*Juniperus virginiana*)
inkberry (*Ilex glabra*)
loblolly pine (*Pinus taeda*)
mountain laurel (*Kalmia latifolia*)
partridgeberry (*Mitchella repens*)
rattlesnake plantain orchid (*Goodyera pubescens*)
spotted pipsissewa (*Chimaphila maculata*)
trailing arbutus (*Epigaea repens*)
Virginia pine (*Pinus virginiana*)
wintergreen (*Gaultheria procumbens*)
woodferns (*Dryopteris marginalis* and *D. intermedia*)

William A. McAvoy

NOVEMBER FIELD TRIP WAS ENJOYED BY ALL!!

Only a handful of souls braved cloudy and 50 degree temperatures to explore the ancient xeric sand dune ridges along the banks of the Nanticoke River within the Nanticoke State Wildlife Area. At this time of the year there were not many plants in bloom (we were a month too early for that!), most of the hardwoods had shed their leaves, and the date and weather clearly were signs that winter was near (though December's warm spell made it seem like summer again). Anyway, field trip participants had the opportunity to see the overall structure, composition and physiognomy of these unique xeric ridges that are irregularly shaped and surrounded by more mesic and lower elevated terrain (and taller forest). These ridge-tops are primarily composed of low-stature Virginia pine and/or mixed oaks (mostly water, post, southern red, or blackjack). In addition, each ridge-top typically contained openings of bare sand devoid of vegetation. The herbaceous cover found on these ridge tops is sparse with scattered sedges, grasses, legumes, lichens, and mosses. Of particular interest to all were the unusual sand hickories (*Carya pallida*) common to this part of Delaware, several rare plants

Continued on Page 2

The DNPS Vision

The purpose of the Delaware Native Plant Society (DNPS) is the preservation, conservation, restoration, and propagation of Delaware's native plants and plant communities. The Society provides information to government officials, business people, educators, and the public at large on the protection, management, and restoration of native plant ecosystems. The DNPS encourages and advocates the use of native plants in the landscape by homeowners, businesses, and local and state governments through an on-going distribution of information and knowledge by various means that includes periodic publications, symposia, conferences, workshops, fieldtrips, and a statewide membership organized by the DNPS.

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such as the wintergreen (*Chimaphila umbellata* ssp. *cisatlantica*), and the box huckleberry (*Gaylussacia brachycera*); the latter proved to be much more abundant here than previously thought. In addition, we discovered that two species of very similar huckleberries (the dangleberry, *Gaylussacia frondosa*, and the black huckleberry, *G. baccata*) that form dense colonies and are very common in the Wildlife Area were readily distinguishable at this time of the year: one still had most of its leaves at this time, which were reddish, while the other had lost most of its leaves.

Most of our time on this field trip was spent on the well-drained sandy soils of the uplands and only a brief time was spent exploring the Atlantic white cedar wetlands that occur along Broad Creek and the Nanticoke River. Likewise, since it was getting late in the day, only two of us were able to see the bald cypress of Trussums Pond and along the Hitch-Pond Branch. A more in-depth look at these communities will have to wait for a future field trip.

Keith Clancy

LETTER TO THE EDITOR

DESPITE ITS ECOLOGICAL SIGNIFICANCE, THE GORDONS POND AREA REMAINS A TARGET FOR A LEWES-REHOBOTH BIKE ROUTE

The Gordons Pond area of Cape Henlopen State Park consists of 347 acres of land, formerly preserved as a wildlife area. This area contains a variety of natural communities and includes a globally rare loblolly pine maritime forest/woodland community found on islands in Gordons Pond and to the southwest of the pond along the saltmarshes bordering Lewes Creek. These forest communities are ecologically distinct from inland loblolly forests. There are also several state listed rare plant species present in the area. Furthermore, on March 13, 1992, Delaware nominated this area for listing under the "Convention on Wetlands of International Importance especially as Waterfowl Habitat" sometimes referred to as the Ramsar Treaty. Listings for the Convention are areas to be preserved or managed for the primary purposes of protecting the living resources therein.

Despite the ecological significance of the Gordons Pond area politicians, developers and tourist interests have talked for twenty-six years of building a bike path between Lewes and Rehoboth Beach through this area. However, recent developmental efforts have resulted in the possibility of the bikeway becoming a reality within the next 12 to 18 months. Despite significant resident resistance, legislature is working towards adding significant funding for this project through the Bond Bill. Some State Senate members appear to be ignoring the numerous ecological studies identifying this resource as one of unique and irreplaceable significance.

If you are familiar with this area, you know that it deserves proper planning and that changes in the park should not be irresponsibly added to the Bond Bill. Our legislators need to understand the ecology of the area, the history of community opposition, and that a Master Plan is being developed. To achieve this we need to get as many calls and letters in to our legislators as possible over the next couple of weeks explaining the situation and asking them to vote to repeal of Section 75 of the Bond Bill. Additionally, letters should be sent to the Governor opposing the path in that area with copies going to Chazz Salkin of the Division of Parks and Recreation.

All members of the DNPS are encouraged to write or call their legislators, the Governor and the Director of the Division of Parks and recreation to express their opposition to this proposed bike trail. Governor Thomas Carper can be reached at the Tatnall Office Bldg,

Dover, DE 19901, (302) 739-4101, or 577-3210, and the Director of Parks and Recreation's Chazz Salkin can be reached at Division of Parks and Recreation, DNREC, 89 Kings Hwy, Dover, DE 19903, (302) 739-5285. For more information about this politically-motivated bike trail you can contact Keith Clancy at (302) 674-5187/dnplant@aol.com, or Cornelia Melvin at (302) 945-4708/cornelia.melvin@dol.net

Base letter provided by: Cornelia Melvin

PICK THE TURK'S CAP

In past newsletters, I have been passing on lots of interesting information to DNPS readers. But this issue, I want to see how good your general knowledge is about common gardening equipment and materials. I made a short quiz for you. So test yourself. Just match the definition with the right word. Good Luck. (not all of the answers are real)

- | | |
|------------|--|
| 1. Tankage | 4. Widger |
| 2. Dibble | 5. Spud |
| 3. Mattock | 6. Trug |
| A. | A common type of greenhouse sprinkler that provides a mist. |
| B. | Tool used for making holes for transplants and bulbs. |
| C. | Tool used to remove bark from dead or old trees. |
| D. | The dried, ground, and rendered by-product of slaughtered animals minus the processed commercial meat. |
| E. | A thin hose attached to a birdbath providing a slow release of water. |
| F. | Tool used to remove scales from leaves and fragile stems. |
| G. | Tool used for transplanting small seedlings. |
| H. | Shallow basket made of wide wooden strips, with short wooden feet and a large handle. |
| I. | The capacity of a hand sprayer. |
| J. | A combination hoe-ax, or -pick used to break up hard ground and grubbing stones. |
| K. | Tool used to graft trees and shrubs having hollow piths. |

To avoid getting more test like these, send in your questions to the editor: Douglas Janiec, 908 Pickett Lane, Newark Delaware, 19711, or e-mail wildlife@delanet.com.

Answers: 1-D, 2-B, 3-J, 4-G, 5-C, 6-H

DNPS WEB PAGE

The DNPS apologizes for the tardiness of the web page. The web page is an effort that is totally voluntary. Therefore, during the holidays, the required amount of time necessary to complete the web page was not plentiful. After much consideration, it was decided to totally Redesign the page, further adding to the delays. Despite this, I think you will be happy with the outcome. The web page will be accessible on February 1. Work on it will continue for the following months until it is completed. Once it is running, I encourage comments and input towards further improving this conservation tool.

www.delanet.com/dnpswp

NATIVE PLANT COMMUNITY HIGHLIGHT:**BALD-CYPRESS—RED MAPLE-(Swamp Tupelo-Black Gum)****SEASONALLY FLOODED FOREST COMMUNITY****(*Taxodium distichum*-*Acer rubrum*-*Nyssa (biflora, sylvatica)*)****INTRODUCTION**

Bald cypress is a deciduous member of a natural group of plants referred to as Gymnosperms (or conifers); plants that produce “naked” seeds not enclosed by an ovary. The bald cypress produces delicate fern-like green leaves (needles) that occur in two ranks (two rows along the twig) in a flattened plane. In the autumn these needles turn reddish-brown after the first frost before falling to the ground. In Delaware bald cypress red maple [swamp tupelo-black gum] occurs on the coastal plain in swamps adjacent to rivers and creeks. It is found primarily in Sussex County, with the best stands found along the James Branch (a tributary of the Nanticoke River). Disjunct occurrences are found in the Murderkill River and Tidbury Creek drainages of Kent County. The Tidbury Creek occurrence is a small stand (several acres) of tall (> 100 feet) and mature (± 120 years in age) trees that appears to be a natural occurrence and was only just discovered in the summer of 1998. The bald cypress is at the northern-most limit of its native range in Delaware.

The Bald Cypress is a majestic tree that may reach heights of 150+ feet and up to 1500 years in age. The flared, swollen or buttressed trunk bases are characteristic of this species and may be more than 12 feet in diameter, though Delaware trees are not quite this robust. Odd swollen bottle-shaped trees occur along the James Branch; the misshapen trunks are believed to result in response to flooding regime. Likewise, cypress “knees” are a unique feature of this species and are known to reach heights of 10 to 12 feet. However, knees of Delaware trees are usually not more than three feet in height. The heights of these knees are believed to reflect the height at which the tree is subjected to prolonged flooding. It is also believed that the cypress knees function in aeration of the root system and as respiratory organs.

COMMUNITY STRUCTURE/COMPOSITION

This community is characterized by bald cypress *Taxodium distichum* (bald cypress) as the canopy dominant or co-dominant tree. It is frequently found growing along side other trees such as *Acer rubrum* (red maple), *Nyssa biflora* (swamp tupelo), and/or *Nyssa sylvatica* (black gum). This community occurs on soils of varying compositions of silt and loam (usually mapped as Johnston silt loam by SCS) in seasonally flooded streamside wetlands that receive periodical overbank flooding. *Taxodium* may form dense stands with almost 100 percent cover, or more often with scattered maples and gums. Cypress knees are abundant and bottle-shaped trunks characterize many of the trees along the James Branch. It is believed that the presence of *N. biflora* is restricted to Sussex County bald cypress stands but its exclusion from Kent County cypress swamps needs confirmation. Additional associates in the tree canopy include *Liquidambar styraciflua* (sweet gum), *Pinus taeda* (loblolly pine), *Chamaecyparis thyoides* (Atlantic white cedar), and *Fraxinus pennsylvanica* (green ash). Other infrequent canopy associates include *Liriodendron tulipifera* (tulip poplar), *Populus heterophylla* (swamp cottonwood), and *Quercus michauxii* (swamp chestnut oak). The shrub stratum can be diverse and includes *Clethra alnifolia* (sweet pepperbush), *Ilex verticillata* (winterberry), *I. opaca* (American holly), *Magnolia virginiana* (sweet bay magnolia), *Itea virginica* (Virginia willow), and *Viburnum dentatum* var. *lucidum* (arrow-wood). Other less abundant shrubs are *Cornus amomum* (silky dogwood), *Rhododendron viscosum* (swamp azalea), *Lindera benzoin* (spicebush), *Sambucus canadensis* (elderberry), *Rosa palustris* (swamp rose), and *Euonymus americanus* (strawberry bush). Infrequent shrubs may include *Symplocos tinctoria* (sweet leaf), *Aronia arbutifolia* (chokeberry), *Asimina triloba* (paw-paw), *Leucothoe racemosa* (fetterbush), and *Cephalanthus occidentalis* (button-bush). The herbaceous layer is variable and can be quite diverse. A combined total of 75 vascular plant species were noted from twelve *Taxodium distichum* forest stands in a 1992 study by the Delaware Natural Heritage Program. *Boehmeria cylindrica* (false nettle) has been observed in all *Taxodium* swamps. Other common herbs include

Lycopus rubellus (water horehound), *Impatiens capensis* (jewelweed), *Saururus cernuus* (lizard's-tail), *Woodwardia areolata* (netted chain-fern), *Peltandra virginica* (arrow arum), *Osmunda cinnamomea* (cinnamon fern), and *O. regalis* var. *spectabilis* (royal fern). Infrequent to rare herb associates are *Arisaema triphyllum* ssp. *triphyllum* (jack-in-the-pulpit), *Lobelia cardinalis* (cardinal flower), *Carex crinita* (a sedge), *C. folliculata* (a sedge), *C. debilis* (a sedge), *C. intumescens* (a sedge), *Iris versicolor* (blue flag), *Leersia virginica* (white grass), *Oxypolis rigidior* (water-dropwort), *Thalictrum pubescens* (meadow-rue), *Sphagnum* sp. (sphagnum moss), *Viola cucullata* (blue marsh violet), and *V. primulifolia* (primrose-leaved violet). Vines are a conspicuous component and include *Smilax rotundifolia* (round-leaved greenbrier), *Parthenocissus quinquefolia* (Virginia creeper), *Toxicodendron radicans* (poison-ivy), and the exotic *Lonicera japonica* (Japanese honeysuckle) as the most abundant. In Delaware, the only aspect that differentiates a bald cypress community from a mixed hardwood floodplain community is the presence of bald cypress itself; this may actually reflect historical anthropogenic activities that has resulted in a blurring of ecological differences. In nearly all Delaware instances, *Taxodium distichum* assumes dominance in the canopy over the maples and gums. The soils and associated flora between bald cypress and mixed hardwood swamps are relatively the same. In pristine conditions, hydrology, specifically flooding regime, is probably the single most important factor dictating the presence and integrity of bald cypress swamp communities.

FAUNA

Delaware's bald cypress red maple-[swamp tupelo- black gum] swamps provide home and habitat to myriad groups of animals too numerous to list but these include many species of birds, moths and butterflies, dragonflies and damselflies and numerous other invertebrates, frogs, toads, salamanders, turtles, snakes, fishes, and mammals such as squirrels, rabbits, deer, opossum, raccoons, fox, river otter, mice, and possibly bobcats.

COMMUNITY DYNAMICS/SUCCESSION

Bald cypress is a slow-growing and very long-lived species and as such, forest stands that support a dense cover of this species are expected to be climax in succession. As long as the proper flooding regime is maintained and logging is excluded this community should be relatively stable and long-lasting.

DISTRIBUTION

In Delaware this coastal plain community is primarily found in Sussex County where it is best developed along the James Branch. Other stands are known from the Indian River drainage and within the Great Cypress Swamp where several remnant stands may be found. The *Taxodium distichum*-*Acer rubrum*-*Nyssa (biflora, sylvatica)* Seasonally Flooded Forest Community, or nearly identical related communities, range from Delaware south to Florida and west to Texas and southern Indiana.

COMMENTS

Bald cypress at one time was abundant, along with Atlantic white cedar, within the 50,000 acre (now reduced to about 11,000 acres) Great Cypress Swamp along the Maryland-Delaware state line in southern Sussex County. After centuries of logging and several major fires only small remnant stands may be found in this swamp. Efforts are now under way to develop appropriate management and restoration activities within the Great Cypress Swamp that may result in the restoration of this community within this swamp.

CONSERVATION STATUS

In Delaware this is a rare natural community and of conservation concern. It has a Delaware Natural Heritage rank of S2 (6 to 20 occurrences throughout the state).

Keith Clancy

TREE SPREE 98 RECAP

IT WAS A NEAR PERFECT DAY, AND UNSEASONABLY WARM. THE TREE FOLIAGE WAS IN SPECTACULAR COLOR. AND EVERYBODY WAS IN GREAT SPIRITS. TREE SPREE WAS IN FULL SWING. THE DNPS WOULD LIKE TO THANK GARY SCHWETZ AND THE REST OF THE GROUP FOR SUCH AN ENJOYABLE AND INFORMATIVE AFTERNOON.

IN CASE YOU ARE NOT FAMILIAR WITH TREE SPREE, IT IS AN EXTREMELY RELAXING AND FAMILY ORIENTED EVENT THAT PROMOTES THE PROPAGATION OF TREES. THERE ARE REPRESENTATIVES FROM MOST OF THE MAJOR AND MANY OF THE MINOR CONSERVATION GROUPS IN THE AREA, GOVERNMENT AGENCIES, AND CRAFTSMEN/WOMEN. THE SURROUNDINGS ARE SECOND TO NONE IN THE AREA.

AS LONG AS THIS EVENT CONTINUES, IT HAS THE COMPLETE SUPPORT OF THE DNPS. UNTIL NEXT YEAR.

**DELAWARE NATIVE PLANT SOCIETY
P.O. Box 369
DOVER, DELAWARE 19903**

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