Long Island Botanical Society **Muttontown Preserve Muttontown Lane** East Norwich, New York 11732

Programs

September 12, 2000* Tuesday, 7:30 PM

Don Riepe: Don Riepe, of Jamaica Bay Wildlife Refuge, will give us a chilling slide tour of the "Land of Fire and Ice: Iceland". Expect some high-end photography along with some offcolor humor.

*Refreshments and informal talk begins at 7:30. Formal meeting starts at 8:00 PM. For directions call: 516-571-8500 **Field Trips**

July 22 @ 10:00 AM, (Saturday) **Orient Beach State Park, Orient, NY** Hike Leader: Mary Laura Lamont

Be prepared to walk in the sand (and get your feet wet) as we hike from a Maritime Red Cedar Forest, through a salt marsh, and then to the beach. Be sure to bring a drink as it will probably be hot. Sunglasses and binoculars are a good idea. We will see Blackjack and Post Oaks, Prickly Pear Cactus, and the uncommon Seabeach Knotweed. Directions: Take the LIE east to Exit 73. Travel east on Route 25 to Orient Point. Just before the New London Ferry dock turn right into the park Continue along the sandspit until you see the parking area on your left. (Parking: \$7/car).

August 19 @ 9:30 AM, (Saturday) **Devil's Den Preserve, Weston CT Trip Leader: Muriel Stoker**

This 1746-acre Nature Conservancy site in Fairfield County boasts wetlands, woodlands, and rugged ridges accessible by 21 miles of trails. Some 475 species of flowering plants have been identfied. Muriel, now retired after wording for a number of years at the Muttontown Preserve on LI, has long been an active and enthusiastic LIBS member. She

advises that you bring a lunch that you can carry, and observe the usual advice about footwear, liquids and ticks. There are no restrooms. Directions: Take Throggs Neck Bridge (\$3.50) to I-95 North. Follow Hutchinson River Parkway North which becomes Merrittt Parkway in CT. Take Exit 42 and go North on Roue 57 for five miles. Turn east (right) at Godfrey Road for half a mile; then turn left on Pent Road which ends at the preserve's main parking area.

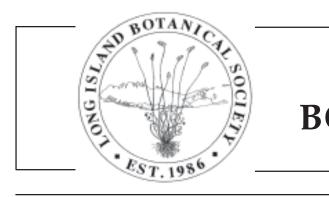
September 9 @ 9:30 AM (Saturday) Hecksher State Park, East Islip, NY **Trip Leader: Chris Mangels**

We are fortunate to have Chris to come down from Connecticut to share some of his formidable botanical knowledge with us. He grew up in East Islip, and neighboring Heckscher is an area that he knows well. Chris has been involved with LIBS for as long as it has existed, and he worked for the LI Chapter of The Nature Conservancy doing botanical searches and documentation in the late 1980's. Bring lunch and dress for the field. **Directions:** Take Southern State Parkway to its (south)eastern end, where it terminates in the park. Meet at parking field 4 near its northwestern corner. (\$5 entrance fee.)

September 30 @ 9:30 AM (Saturday) Welwyn Preserve, Glen Cove, NY **Hike Leader: Lois Lindberg**

Lois, who knows this preserve well, will lead us through the following habitats: a stream valley with freshwater seeps, a mature Tulip Tree Swamp Forest, a saltmarsh, and a beach on LI Sound. We will see some very large trees and a more southern variety of Seaside Goldenrod (Solidago sempervirens mexicana).

Directions: Take the LIE to Exit 39N. Follow Glen Cove Road north and bear left (on Arterial Highway segment) to the end. Make right onto Glen Cove Avenue, then left at next block onto Mill Hill Road. Bear right on Hill Street and make third left onto Landing Road. Make first right onto Crescent Beach Road and continue about a mile or so to the preserve entrance on the right.



Vol. 10, No.3

2000 **Old Growth Forests** on Long Island, New York

Daniel Karpen

After more than 350 years of settlement, Long Island has a number of old growth forest areas. While some of them may be very small, sometimes as little as an acre, the astonishing variety of the various forest types will surprise one.

This paper will describe some of the areas that are known or suspected to be old growth. A problem in the delineation of old growth forests on Long Island is the fact that some areas, particularly on the north shore, have not been cut in 200 years, which makes it difficult to determine if an area is truly original or if it is regrowth following logging in colonial times. Such areas do resemble old growth so closely that it is almost impossible to tell them apart.

Gardiner's Island: Perhaps one of the largest and most significant old growth forests is the approximately 700 acres of White Oak (Quercus alba) dominated forest on Gardiner's Island between the North and South Forks. This area is called "Bostwick Forest" and, according to Robert Gardiner, the 16th lord of the manor, the oak tree on which Captain Kidd of pirate fame was hanged is still alive. Also noteworthy is Yellow Birch (Betula alleghaniensis) at Bostwick Forest.

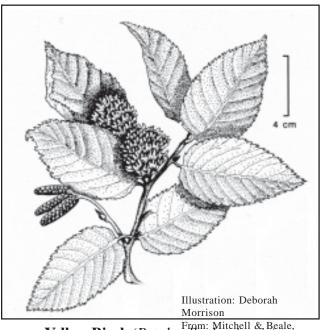
Westhampton Dwarf Pine Plains: This is an area of approximately 2,000 acres of dwarf Pitch Pine (Pinus rigida), similar to the better known dwarf pine plains in New Jersey. Its ecological significance has only been recognized in the past 25 years. Understory is Scrub Oak (Quercus ilicifolia) with Bearberry (Arctostaphylos uva-ursi). This area is considered a globally rare ecosystem by the NewYork Natural Heritage Program.

LONG ISLAND **BOTANICAL SOCIETY**

The Quarterly Newsletter

July-Sept.

Maritime Red Cedar Forests: Orient Beach State Park contains an Atlantic Maritime Climax Forest, dominated by Eastern Red Cedar (Juniperus virginiana). The understory is dominated by Prickly Pear Cactus (Opuntia humifusa). I located three acres of Maritime Red Cedar Forest at East Beach, just south of the Target Rock National Wildlife Refuge on Lloyd Neck in Huntington, N.Y. during the summer of 1993. The oldest Eastern Red Cedar trees had flat topped crowns, an indicator of old age. The Beach Plums (Prunus maritima) in association with this stand were up to 8 inches in diameter at the base. The East Beach site is only 3 acres in extent. Another Atlantic Maritime Forest is on the extreme northwestern tip of Lloyd Neck in Caumsett State Park. (continued on p. 28)



Yellow Birch (Betula allaghaniensis)

Long Island Botanical Society Founded: 1986 Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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Annual Dues of \$15 payable to: Long Island Botanical Society Mail to: Lois Lindberg, Membership Chairperson 45 Sandy Hill Road Oyster Bay, New York 11771-3111 Article & News Submissions Long Island Botanical Society P.O. Box 5001 Hauppauge, New York 11788 LIBS@nativeamerica.org

Society News

Agalinis Amigos: Vincent Puglisi reported that a consortium of entities has come together to form the "Friends of the Hempstead Plains". Participating are the New York City Department of Parks, The Nature Conservancy, and Nassau Community College. Primary in their objective is to help protect populations of Sandplain Gerardia (Agalinis acuta). While it has been known on the north side of the Hemptsead Plains Preserve, it is now found on the south side.

An Exotic Expergefaction: Marilyn Jordan, Stewardship Ecologist of The Nature Conservancy, will be giving a talk "Ecological Impacts of Invasive Exotic Species" at Uplands Farm in Cold Spring Harbor on November 8, 2000 at 7:30 PM. It is open to the public.

Carya's Last Stand: Karen Blumer has reported over a hundred tall trees of Shagbark Hickory (Carya ovata) in a wet woodland site on the northwest corner of Whiskey Road and William Floyd Parkway in the Township of Brookhaven. Andrew Greller positively identified the trees making this the most significant, and perhaps only, native population on Long Island. (He commented that prior reports of Shagbark Hickory have actually turned out to be Carya ovalis.) The area also contains valuable perched wetlands. A developer is looking to clear the 100 acre area. Ridge Civic Association and the Open Space Council are mounting a lawsuit to protection it.

Sanguine Signs in Stony Brook: Louise Harrison reported that there is hope the largest remaining contiguous forest in Stony Brook may receive protection. The site contains about 40 acres and the seven acres closest to the harbor are in jeopardy due to a proposed Post Office building extension. Senator Charles Schumer has been working to dissuade the Post Office from expanding its facilities into the forested area. The preferable alternative would be for them to divide their operations into two locations as is done elsewhere.

New Member Milestones: LIBS has received its first new member via the internet, its first European member (from England), and its second life member.

News of the Future

July 12, 2015: A new dilemma has baffled the epidemiologists. The new "Vulgar Virus" that aggravated an ingrown toenail of a senile ninetyseven year old was traced to a tick (Ixodes bologna) that was found in a rusty engine block of a 67 Chevy abandoned in the core area of the Pine Barrens. Suffolk County Department of Health spokesperson Molly Thyon has issued a memorandum recommending the immediate spraying of all automobiles and ATV's with double doses of strychnine and DDT. The County Legislature has called for aggressive measures including the impoundment of all cars bearing a Chevrolet emblem. The Department of Motor Vehicles is sweating this one out amid rumors that automobiles may soon be outlawed.

As Completely As A Tree

The trees were basking in October sunlight; no breath of wind, no sound at all save a distant crow whose hazy voice came from fields a mile away.

In silence then a leaf came drifting down; tilting back and forth to join the duff. And then another and another, floating gently to their final resting place.

one by one, without regret, surrendering in dignity.

Without reluctance letting go

No sigh, no moan, accepting in good faith the nakedness and poverty that would ensue; the cold of winter and the trauma it would bring, the winds to be endured before the spring.

Did they sense the depth of roots that hold them firm and slowly grow beneath the soil, preparing them for resurrection and even greater growth?

Would I have the faith to see the parts of me drop off and welcome utter poverty? Could I ever trust my God as completely as a tree?

Up above, the trees stood tall, unmoving. With grace they let each leaf fall down;

No wind came by to help disrobe them. their food, their clothes, their very lives, In peace they lifted up their arms.

Could I ever be a tree in the autumn of my life, accept with calm the letting go of all that nurtures me on earth and trust the resurrection of my roots?

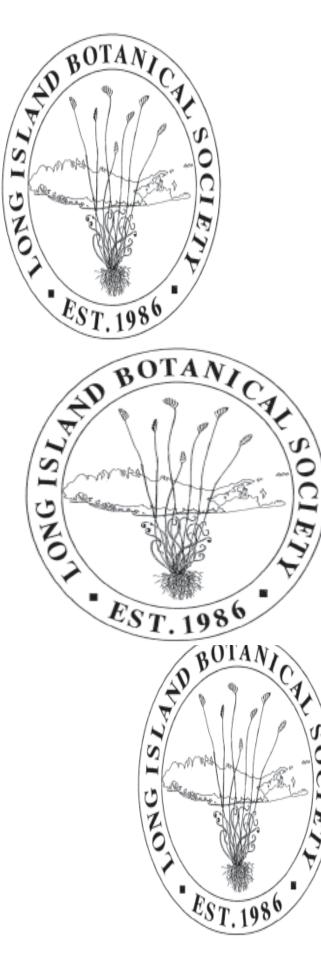
--Barbara H. Conolly

Addendum to "Old Growth Forests"

Suspected Areas of Old Growth: Tupelo forests on the south shore and north shore swamps may have trees 200 years plus. Many of these areas are in the lands of the City of Brooklyn which had watersheds on Long Island in the 19th century, and in the Massapequa and Merrick areas. Much of these areas are preserved along parkways in southern Nassau county. Supposedly, Tackapasha Preserve in Wantagh has old growth, although it does not appear that way from the appearance of the woods. The Grace Estate in the North Hills part of town of North Hempstead may have old growth Tulip forests 200 years plus.

A Note on Some Large Trees at Inwood Hill Park, Manhatttan, NY: One would not expect original forest cover on Manhattan. A small, but extremely spectacular area, is in Inwood Hill Park at the north end of Manhattan island. I visited the area in April of 2000. It is documented that a Tulip Tree 168 feet high, and six feet in diameter, grew at the base of the park, next to an open ball field, until it died in 1936 at 280 years old. That would put the date of the tree's birth in 1656. Inwood Hill park still has a spectacular stand of old Tulip Trees up to 200 years old; the largest is about 150 feet high and about five feet in diameter. Also present are very large White Oak and Swamp White Oak (Ouercus bicolor). These are massive trees with trunks 3 feet in diameter and 40 to 60 feet to the first branch. I measured an American Beech tree 38 inches in diameter in Inwood Hill Park; there are also some very old Sugar Maples (Acer saccharum). The forest is very mixed; there is Northern Red Oak (Quercus rubra). So we have a mixture of northern trees and southern species, including a large Cucumber Magnolia (Magnolia acuminata) about 30 inches in diameter. It may have been planted.

Editor's Note: The forest areas mentioned in the above article are those known to the author. There may be additional sites on Long Island. If you know of other possible old growth forest settings on Long Island please contact the Long Island Botanical Society.



Letters to the Editor

A note on Sweetbay Magnolia

Dear Editor,

May 5, 2000

I was surprised to learn in the latest LIBS newsletter that Sweetbay Magnolia (Magnolia virginiana) is on Long Island. I was also going to write that down here in Florida it is no slender tree, but one of the largest - 50 feet tall and easily 2 feet in diameter. Then I heard a talk at our local Native Plant Society meeting by Magnolia expert Dr. John Tobe who cleared up the mystery for me: the trees in our area are var. australis which occurs south of Virginia to Texas as opposed to var. virginiana which occurs northward. According to Dr. Tobe the northern variety is a small tree or shrub with deciduous or "semi-evergreen" leaves. In our county (Leon) we have the national champion Sweetbay tree 13 feet circumference, 91 feet tall. The tallest ones I've seen are in St. Mark's NWR, south of Tallahassee. I'd like to see the Long Island ones when I come up north this summer.

> Ann Johnson, Ph.D. Florida Natural Heritage Program

Email to the Editor

"The newsletter continues to be great-my favorite, except for the typos. I was horrified to read about Les Sirkin. I had spent the winter reading his "Eastern Long Island Geology" and had been impressed with his ecological warnings."

-Jean Held

Note: The reference to Les Sirkin is in regard to his acceptance of money for his testimony for developers who then desecrated the Grandifolia Sandhills in Baiting Hollow, NY. Scores of environmental groups from across Long Island had been pleading to help preserve this unique geological and ecological site on LI.

Plant Sightings

Birdsfoot Violet: In the early 1980's Bob Laskowski was helping conduct a NYS bird count at MacArthur Airport and thought to himself what a great site the lowcut, semi-arid fields would be for Birdsfoot Violet (*Viola pedata*). "I came up with the bright idea of spreading some seeds in the area," commented Bob. "But when I took a closer look, I saw that nature beat me to it." This spring, Bob Laskowski and John Potente went for an updated (escorted) survey and were treated to an endless display of the violet Violets throughout the 700 acres of close cropped landscape. (Something to be said for airport habitat: well-maintained grasslands, secure, no herbicides, no off-road vehicles, and paid for!)

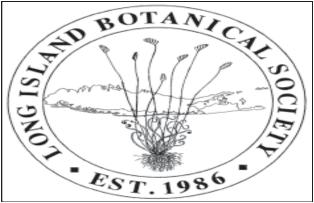
Bloodroot: Ray Welch's field trip to Caumsett State Park in April did indeed bear a rewarding view of Bloodroot (*Sanguinaria canadensis*) believed to be native.

Bluets: Barbara Conolly announced that the Bluets (*Houstonia caerulea*) were in good bloom in the St. John's Cemetery in Oyster Bay.

Chestnut: After five years of locating, identifying, pollinating, and harvesting American Chestnuts (*Castanea dentata*), John Potente was successful in propogating the first round of Long Island genome seedlings. In early May the first of twelve planted nuts sent up its first leaves to break through the soil in Hauppauge and greet the sun.

Ground Cedar: Skip Blanchard has found an uncommon species of Ground Cedar (*Lycopodium tristachyum*) in Hither Hills State Park.

Trout Lily: John Turner spoke of a hillside of Trout Lily in Whitney Pond Park in Manhasset.



American Chestnut seedling in Hauppauge

Old Growth Forests (Continued)

Cold Spring Harbor Yellow Birch-Tupelo Forest:

During the summer of 1993 I located this Yellow Birch-Tupelo old growth forest which is only about one acre in size. A northern tree, Yellow Birch, is growing with Tupelo (Nyssa sylvatica), a distinctly southern tree, in an area of cold water springs on the north side of a glacial moraine hill. The Yellow Birch are up to 25 inches in diameter. Rotting logs provide evidence to the age of the trees; some pieces have 30 to 40 rings to the inch. The oldest tree may be 300 years old; the bark is very thick and has scaly plates.

The site is on the south side of Route 25A just one quarter mile west of the Cold Spring Harbor Fish Hatchery. This site is privately owned; it has been examined by the Long Island Chapter of the Nature Conservancy and a report has been filed with the New York Natural Heritage Program. It should be noted that a sawmill was built in Cold Spring Harbor in the year 1682 only one half mile away. Sargent's Trees of North America notes Yellow Birch to be found in Cold Spring Harbor.

Ridges in the Cold Spring Harbor area contain Chestnut Oak trees (Quercus montana) at least 200 years old. Scattered White Oak trees may be 200 to 300 years old along the Nassau-Suffolk Trail maintained by the Long Island Greenbelt Trail Conference. The outward appearance of the forests on the north shore hills in the Cold Spring Harbor area is very similar to old growth ridge top forests in the 3,500 to 4, 500 foot elevations of the Blue Ridge near Asheville, North Carolina.

Oak Brush Plains: There are approximately 600 acres of "Pine Barrens" dominated by Pitch Pine in Edgewood at the site of an old psychiatric hospital now demolished. The understory is Scrub Oak (Quercus ilicifolia), which in some areas is dominant as the pine trees are scattered. The root stock of the Scrub Oaks is old growth, even though the area has repeatedly been burned.

A smaller nearby area of about 25 acres is known as the "Bishop Tract", as it was once owned by the Catholic Church, and is now Suffolk County Parkland.

Welwyn Preserve: Allan Lindberg located an old growth stand of White Oak, Tulip Tree

(Liriodendron tulipifera), and Yellow Birch in Glen Cove. A large White Oak which is over 3 feet in diameter was increment bored, and over 300 rings were counted. The Tulip Tree is believed to be remnant of the original forest; these trees are 3 to 5 feet in diameter, 130 feet to 160+ feet high, and have characteristic old growth bark. The total stand is about 20 acres.

Shu Swamp: This preserve in Mill Neck has a very significant stand of old growth Tulip Tree and American Beech (*Fagus grandifolia*). The Tulip Trees are 3 to 5 feet in diameter, many have dead tops, and are 130 to 150 feet high.

The total extent of the old growth at Shu Swamp is about 30 acres. Nearly the entire preserve is old growth forest, with the exception of the steep slopes on the west side of the preserve. This slope was an American Chestnut (Castanea dentata) dominated forest now succeeded with Tulip Trees about 90 to 100 years old.

Most of the large Tulip Trees in Shu Swamp are 150 to 200 years old. Confirmation has been by ring counts on fallen trees with similar bark characteristics. The southern portion of the preserve, south of the dirt road leading east-west, has the largest and oldest Tulip Trees. The maximum diameters are 54 inches at breast height. The largest trees have huge branches; these trees may be 300 years old.

The Tupelo trees at Shu Swamp may be the oldest trees on Long Island. The New Hampshire Natural Heritage Program located a Tupelo tree in the state that was about 623 years old. It is my belief, based on bark characteristics of the largest tupelo trees in Shu Swamp, that they may be 350 to 600 years old. However, the largest tree, which is about 30 inches in diameter, is hollow, and so are several other trees. Typically, Tupelo trees have 20 to 30 rings per inch; thus a tree with 15 inches of wood from the center to the outer bark could be 450 years old. The largest Tupelo trees, three of them along the west side of the trail which follows the creek upstream, have furrowed bark which is up to 4 inches thick. This characteristic has led me to believe the trees are very old.

Also in the preserve are old growth American Beech, White Oak, and very old White Ash (Fraxinus americana). I estimated about 250 rings



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(Quercus alba)



Scrub Oak, Bear Oak (Quercus ilicifolia)



Red Oak (Quercus rubra)

3

Acorns



Black Oak (Quercus velutina)



Post Oak (Quercus stellata)



Swamp White Oak (Quercus bicolor)



Pin Oak (Quercus palustris)



Scarlet Oak (Quercus coccinea)

Illustrations by Walter Lincoln Graham from III. Companion to Gleason and Cronquist's Manual

Acorns and **Long Island Indians**

Paul Hunter

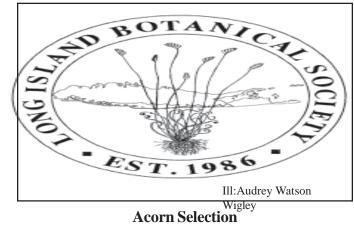
For us twenty-first century folks, seasons are times for planning vacations, sprucing up the garden or getting the oil burner cleaned. But for indigenous people, each season brought a new source of food, and raw materials. If we could jump into the time machine and zoom back into the Indians' day, what a wonderful education we'd get. In early fall while the warmth of summer mingled with the beginning of the color change, preparations for the coming winter were seriously under way. One of the most important tasks lay at hand.

Above the trees, throughout the woods, even drifting across the bay was the haze of wood-smoke. In fact, everywhere the length and breadth of Long Island, a smoky haze hung in the air. At the Indian town of Corchaug, as well as all along the bay and at the headwaters of all the creeks along the North Fork...it was the acorn season.

Every American Indian, from toddler to antiquarian-all across America, was familiar with curing acorns. One of the prime sources of baking flour for the Indians was the acorn. Acorns were guarded so carefully by Indian families that their possessiveness denies the concept that Indians had no idea of private property. Indians laid claim to oak trees, esspecially islands of white oaks scattered here and there in the forest. One huge tree provided hundreds of pounds of sweet nutmeats to last a family all winter. But you can't eat acorns off the tree. They are so sour, they must first be boiled in a solution of wood ashes, not once, but several times to remove the tannins. Otherwise, they are indigestible. Of all oak trees, the White Oaks were the preferred source of acorns because they contain very little tannin and thus little preparation is required before eating. All acorns are edible, but the rest need considerable preparation. So for Indians to watch white men fell huge white oak trees was devastating. It was only wood to the white man, while it was a staple to the Indians. Nathaniel Sylvester cut down 1,000 acres of White Oaks on Shelter Island to make rum barrels, and farmland. Needless to say, the Indians were deeply upset.

And so each year, in late summer, came the acorn harvest. Everyone got into the act. The strong men went up the trees and shook the branches, the toddlers waddled about picking up one or two nuts each to help. Young and old alike collected basketfuls of nuts, and a procession - like ants to an anthill streamed out of the woods into the villages and camps depositing their burdens onto the great heaps piled here and there. The less able pushed the piles to level them out to dry in the sun. Groups of women and children sat around the drying acorns biting and peeling the husks off the nutmeats. Old women stirred clay pots over hot fires to boil off the tannin, and families filled their sacks and jars with their winter's supply of sweet acorns to be ground into flour as needed. Finally, when only the surplus was left, they were packed up, shells and all and anchored beneath ponds and streams to let nature leach out the sourness. By winter's end they could be used to replenish the depleted harvest of season's acorns. Many a fleeing Indian and starving pioneer was elated to discover one of these acorn caches. They lasted for decades under water.

While the Indian had no way of measuring the nutritional content of acorns as we do, they knew nonetheless of their food value. Acorns are 37% fat, just what is needed going into winter. They also contain 8% protein along with calcium, magnesium, phosphorus, and sulphur. Seasoned with blueberries and maple syrup, acorn flour made a delicious dessert, as well as a porridge and soup thickener, but especially bread. Oil was even extracted from the nuts. And there were yet other uses for this essential and versatile abundant food.



on a fallen White Ash trunk; it is very unusual to find White Ash trees this old anywhere. Bruce Kershner, who is writing a book on old growth forest in the northeast, has said that Welwyn Preserve and Shu Swamp have some of the most spectacular forests in the eastern United States.

Blydenburgh County Park: Along the southern shore of the eastern portion of Stump Pond, dammed about 1798, are some very old Tupelos. The bark characteristics are typical of trees about 200 years old. One hollow tree may be 250 years old. This shoreline appears to be untouched since the construction of the dam.

Any area with large Tupelo trees may have trees 200 years old or older. Surveys should be conducted along the Great South Bay, particularly in the Brookhaven area. However, Tupelo may have come in after removal of Atlantic White Cedar (*Chamaecyparis thyoides*) during the colonial era.

Shiff Preserve: This forest tract was acquired by Nassau County in 1992. The lower portion of the eastern slopes of this preserve has a small pond surrounded by a 300 year old White Oak, and huge Tulip Trees up to 4 feet in diameter and 150 high. Some of the tallest trees may be up to 180 feet high. There is a small stand of Atlantic White Cedar along the pond. The tulip trees are 175 to 200 years old confirmed by a ring count on a fallen trunk.

Fire Island Sunken Forest: This famous stand of old growth American Holly (Ilex opaca) in the socalled Sunken Forest is the attraction of the Fire island National Seashore. Also, noteworthy are some very old Shadbush (Amelanchier canadensis) on the north shore of Fire Island. Of interest is the old growth Poison Ivy (Toxicodendron radicans), some of which may be more than a hundred years old.

Carmen's River: The upper portion of Carmen's River in Southhaven County Park contains some islands in the river which have very old clumps of Highbush Blueberry (Vaccinium corymbosum) and Red Maple (Acer rubrum). The extent of the area is only several acres.

Salt Box, West Neck Road, Huntington: Here are remnants of a small old growth area; there are 5 Tulip Trees here which may be 200 years plus. As the trees are hollow, only they know for sure!

Grandifolia Sandhills and Friar's Head: I visited the bluff slopes during the mid-1990's. Pygmy American Beech stands are present, along with Amercian Hornbeam (Ostrya virginiana), an unusual species on Long Island. Intermixed with the Beech are areas of Pitch Pine on the slopes. Scattered Red Maples may be up to 250 years old; White Oak approaches 200 years, and Black Cherry 200 years, unusual for Long Island. The Beech and Black Birch on the slopes may be up to about 160 years. There is absence of human disturbance on the slopes.

Old Beech, Huntington Station: About three acres of American Beech to about 200 years are on the east side of New York Avenue, southeast of the Walt Whitman Mall on private land.

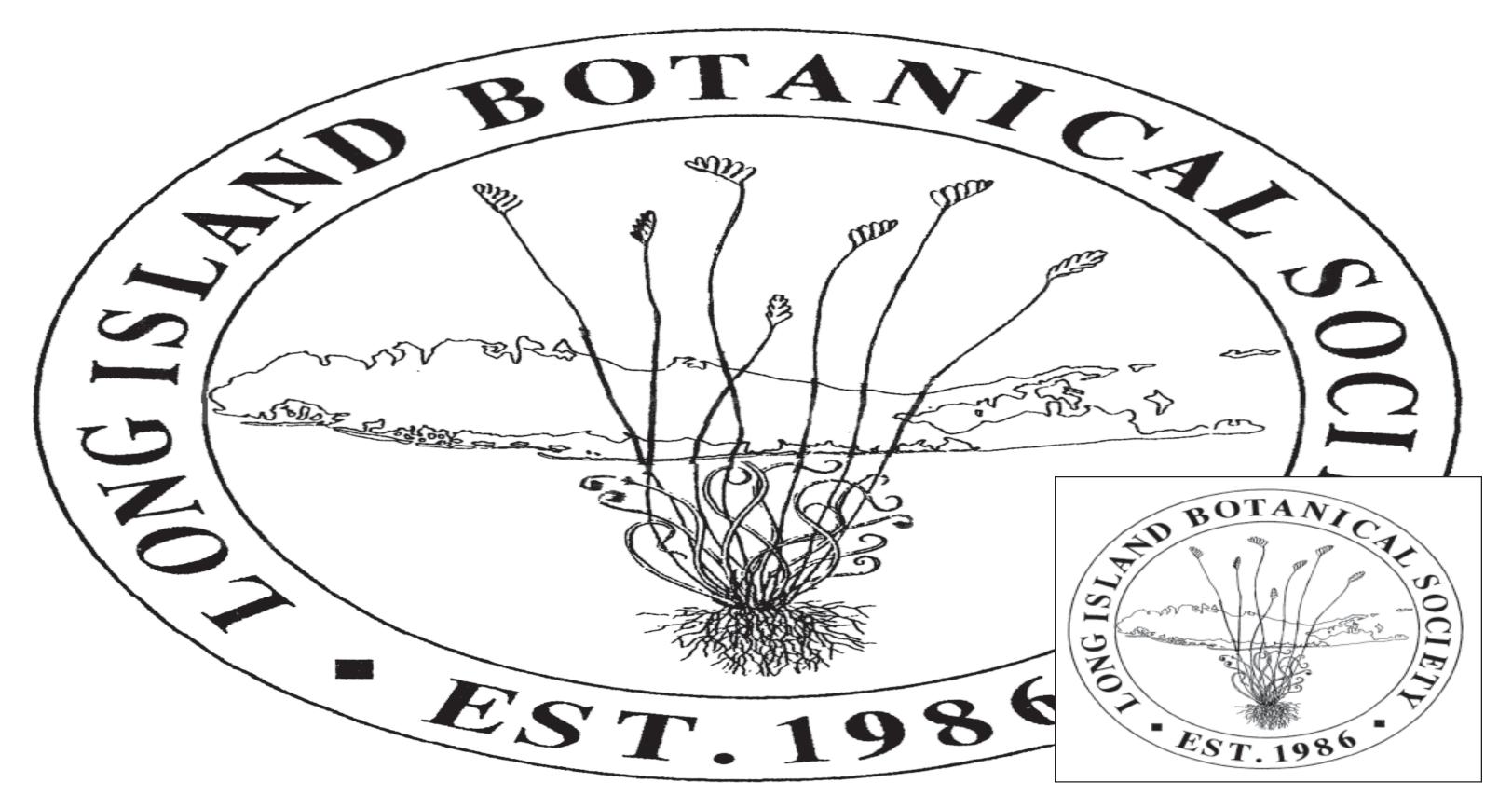
Oyster Bay Mill Pond: There is an old mill pond west of downtown Oyster Bay. Between the mill pond and Lake Avenue, there is a freshwater wetland. The Tulip Trees lining Lake Avenue are four feet diameter and 200 years old; the Red Maple and Tupelo along the lake shore are 250 to 300 years old. The mill pond was probably dammed in the late 1600's or early 1700's.

Makamah Beach: Old Post Oak (*Quercus stellata*) are on the north shore beach. They may be 200 years old. The beach has been subdivided for housing: the site is only several acres.

Hogan Estate, Eaton's Neck: Very large Tulip Trees are on this estate. According to area residents, a cut Black Oak (Quercus velutina) was about 191 years old. While the area may not be truly virgin forest, portions have not been clearcut for a very long period of time.

Caumsettt State Park, Llovd Neck: According to historical records, Lloyd Neck was cut over by the British for firewood at the time of the American Revolution. Caumsett State Park may have some of the oldest documented second growth in the US. The oldest Black Oaks are up to 225 years, consistent with historical records.

West Hills County Park: The northern portion of this county park has a magnic ficent American Beech forest, with a number of vernal ponds. The Beech are up to about 175 years old. The southern portion, west of the church, has Scarlet Oak (Quercus coccinea) to about 200 years old in the back hills. (Addendum p. 34)



"We are fortunate to have been entrusted with a share of the good earth. But it is not only of ourselves that we must think, for millions of the earth's people depend on the soil of our country. May it never be said of us that we have been unfaithful stewards of the good earth. Be thankful that your lot has been cast in the countryside. Here, in the beauty of sky and fields and trees..."

-Nathaniel A. Talmage (The late patriarch)

On February 1, 2000 present generation Talmage obtained permission from the Town of Riverhead to bulldoze the native plants and rare ecosystems of the Grandifolia Sandhills. Stewardship of the land took on a new meaning.

"It is certainly a pity that man so selfishly is bent on spoiling the treasures which future generations must do with- out; he is looking upon his temporary profits as outweighing all else."

-M. L. Fernald, 1937 (Harvard University Botanist)