

Natural Area Mapping and Inventory of Long Pond Park

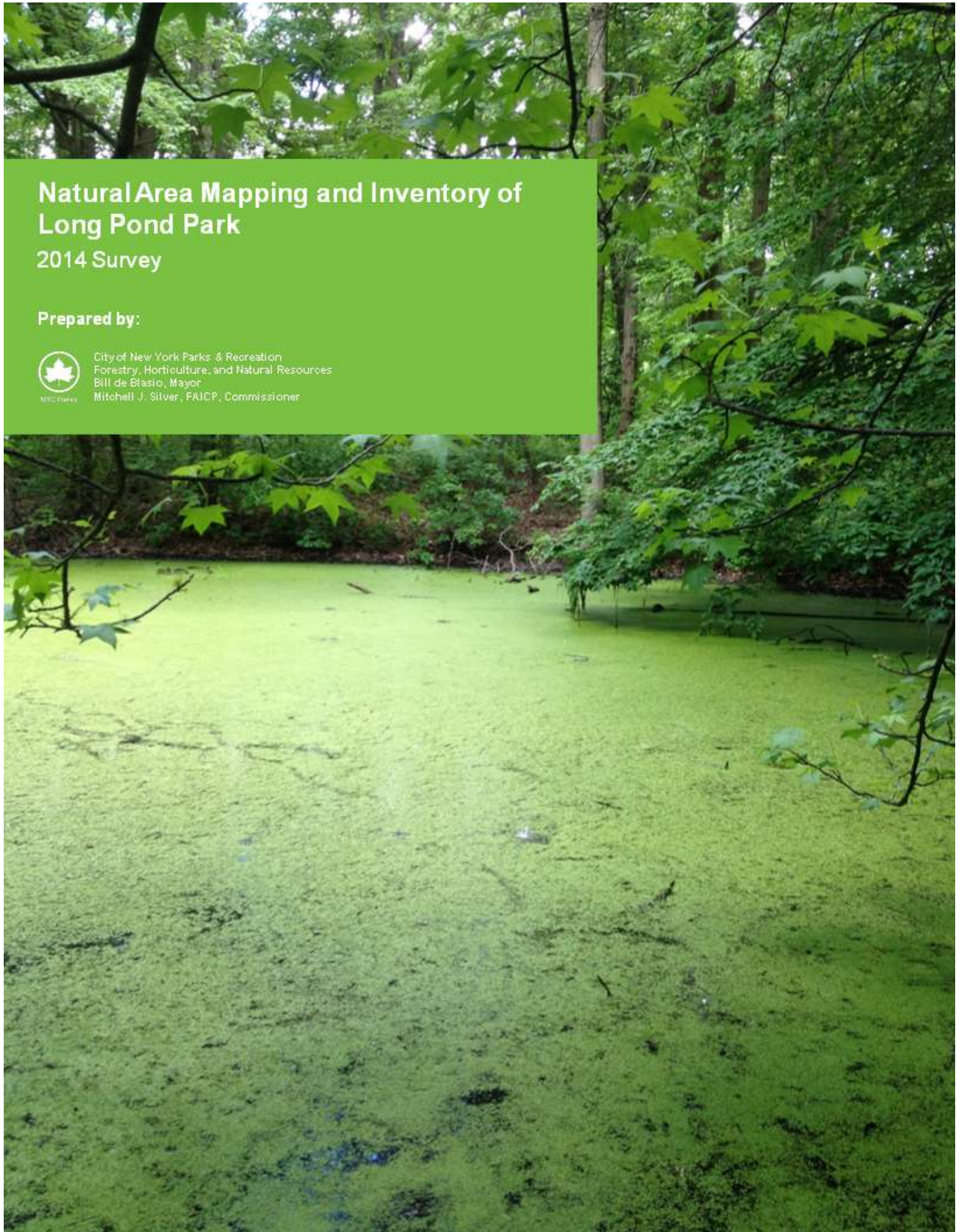
2014 Survey

Prepared by:



NYC Parks

City of New York Parks & Recreation
Forestry, Horticulture, and Natural Resources
Bill de Blasio, Mayor
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Long Pond Park Natural Area Mapping & Inventory Surveyed 2014

116 acres

Introduction

City of New York Parks & Recreation (DPR) manages one of the most extensive and varied park systems of any city in the world. These 29,000 acres of city park property occupy about 15 percent of New York City's total area. In addition to flagship parks such as Central Park and Prospect Park, the city's parklands include over 11,000 acres of natural areas.

Until the 1980's, the Parks Department was primarily concerned with developed landscapes and recreation facilities rather than natural areas. In the absence of a comprehensive management policy, these areas succumbed to invasive species, pollution and erosion.

In 1984, Parks established the Natural Resources Group (NRG) with a mandate to acquire, restore and manage natural areas in New York City. The wetlands, forests, meadows, and shorelines under NRG's jurisdiction provide valuable habitat for hundreds of species, from rare wildflowers to endangered birds of prey. To facilitate the protection, management and restoration of natural areas, NRG began an inventory of parkland using entitation, a process of identifying and describing ecologically distinct plant communities (or entities).

Entitation

Originally designed for European landscapes, the system was revised by NRG in 1985 for use in urban parkland. This method of inventory was chosen because it is well suited to the patchy environments often found in urban areas. The focus of this type of survey is to break down a landscape into discrete, manageable units based primarily on dominant vegetation; each unit is described as an "entitation unit". Entitation units are defined using a weighted list of criteria.

The following distinctions qualify entitation units:

- Vegetation cover type (e.g. closed forest, vineland, scrub)
- Dominant canopy vegetation (e.g. Norway maple, hickory, oak)
- Understory vegetation type (e.g. herbs, vines, shrubs)

Additional factors, such as topography, current use, environmental disturbance and soil condition (e.g. wet, moist, and dry) are also taken into account. Using aerial photographs and field reconnaissance, a landscape can be delineated and mapped into distinct ecological entities. These maps and descriptions will serve as baseline ecological data to plan and conduct natural areas management.

Data Collection

To prepare for fieldwork, mapping technicians examine aerial photographs, delineate areas of similar cover and create a strategy for on the ground surveys. In the field, boundaries are identified as described based on ground cover and vegetation types. For each unit, staff records the data listed above, current uses, environmental disturbances, historical indicators, community stability, and a narrative description of the area including management concerns and notable other species present.

Once collected, all of this data is then entered into a central entitation database. The field maps are then digitized in ArcGIS with the boundaries of each unit recreated and linked to the entitation database. Once the digital map and database are linked maps can be created and information can be queried quickly. The final step is to convert the unit map and descriptions into a final report format.

For this updated inventory of Long Pond Park, mapping technicians also reviewed and carried a copy of the original entitation in the field. New entities were drawn to describe areas no longer sufficiently categorized by the original entitation, and where a unit was clearly still present, but had shifted in shape or size, the boundaries were redrawn to reflect conditions on the ground.

Long Pond Park Overview

In addition to the goals mentioned in the introduction above, NRG serves as a clearinghouse for technical research to aid in the protection and restoration of the city's natural resources. The original inventory of Long Pond was conducted in 1990, prior to acquiring the property, and used to locate valuable and threatened areas of the park as part of NRG's commitment to improving publicly-owned natural areas.

The park's namesake pond sits high above sea level in the center of the park. Because of its elevation, Long Pond does not receive polluting runoff, and has remained relatively pristine. In addition, several other ponds dot the park's landscape. These fill "kettles," small depressions that formed when the Wisconsin Ice Sheet advanced over much of Staten Island 15,000 years ago. The high level of purity in these ponds makes them vital habitat supporting many species of animals.

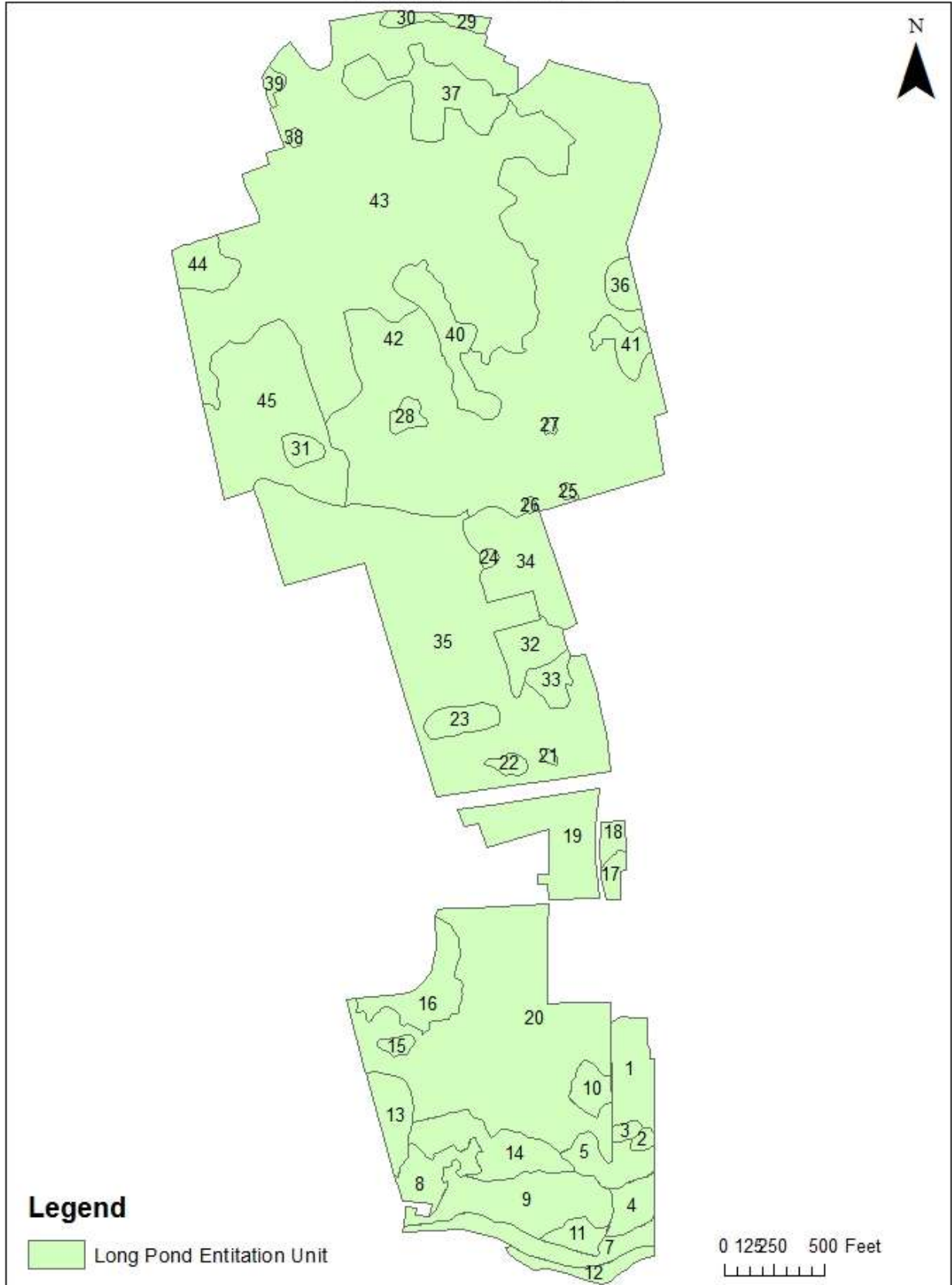
Long Pond and other bodies of water in the park have been incorporated into the Bluebelt water drainage system by the New York City Department of Environmental Protection (NYC DEP). Encompassing several parcels of state-protected wetlands on the island's south shore, the Bluebelt system was specifically designed to provide storm water drainage for neighboring communities. Mature beech, oak and hickory woodlands provide much of the foliage in the park, with many of the trees over sixty years old. They help to support an understory layer of spicebush (*Lindera benzoin*), blueberry (*Vaccinium spp.*) and many herbaceous plants

In addition, this park and adjacent publicly-owned forest areas comprise excellent breeding habitat for forest interior birds. The Atlantic flyway, one of the four main bird migration routes in America, crosses the Preserve. Millions of birds (as well as bats, butterflies and dragonflies) travel the flyway each fall and spring. One of these species is the monarch butterfly, which passes through Long Pond Preserve on its migration from Canada to forests near Mexico City in the fall. The butterflies use natural areas along the flyway, such as Long Pond Preserve, to find food and shelter. Because the area surrounding Long Pond Park is some of the least densely settled in New York City, these areas provide unique habitat for many types of organisms.

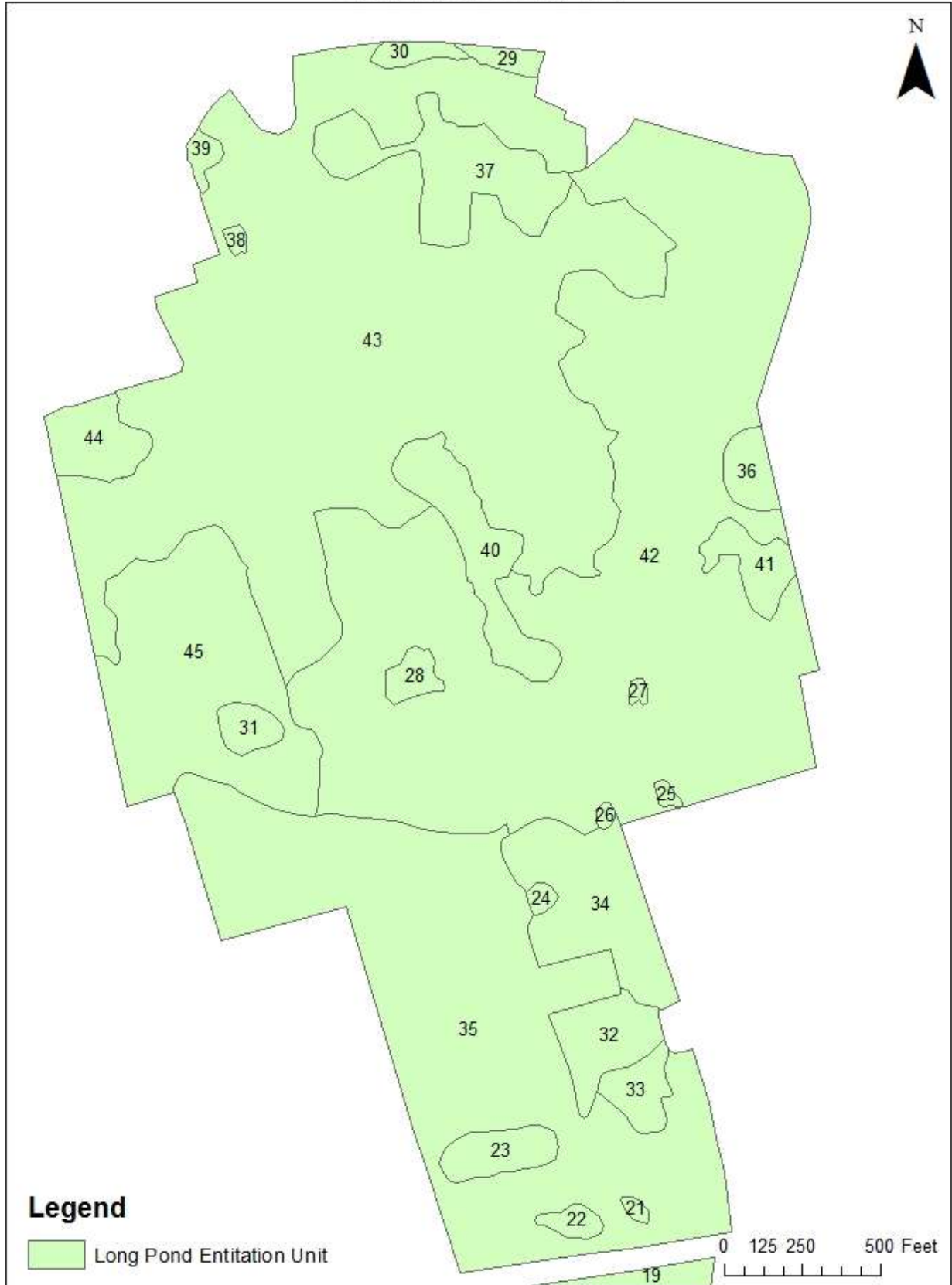
This updated inventory was collected to better understand change over time in this unique forested natural area, and to guide future management of the property.

Technicians: Jason Stein, Leila Mougoui Bakhtiari

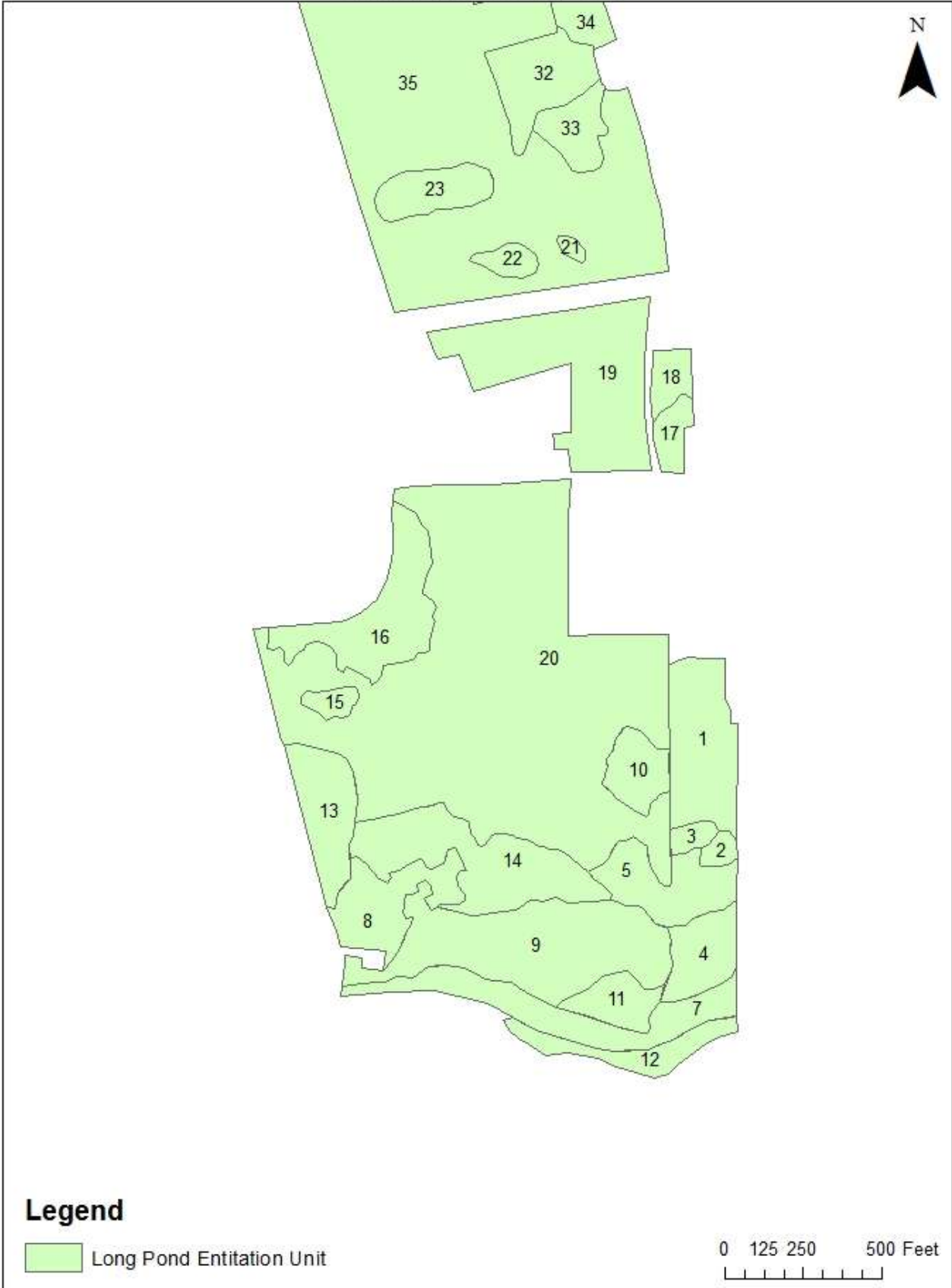
Long Pond Park 2014 Entitation Staten Island, NY



Long Pond Park 2014 Entitation Staten Island, NY



Long Pond Park 2014 Entitation Staten Island, NY



Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 1 **Date of Visit:** 6/6/2014

Acreage: 2.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	Silver maple	>30'		Road	Foot traffic
Deciduous	Red maple	>30' & 5-			Vehicle
Lianas	Sweetgum	all			
Level	Swamp white Oak	>30' & 5-			
Moist	Rose mallow	<5'			

Comments:

Maple, Sweetgum forest crossed by shallow waterway. Open areas near and water contain swamp rose mallow and Phragmites. Understory dominated by vines with some shrubs. Species include: Japanese honeysuckle, Virginia creeper, rose, Rubus sp., catbrier, bittersweet, black cherry, sugar maple, Sassafras, Ailanthus, black walnut, Solidago sp., Joe-pye weed, false Solomon's seal, turks cap lily, Asiatic dayflower, white wood aster, jewelweed, false nettle, white turtlehead, common ragweed, boneset sensitive fern, Carex sp, Juncus sp, and gramineae, dogwood spp., Poison ivy, porcelainberry, olive spp., pokeweed mugwort, spice bush, and bush honeysuckle. This unit is a management concern because of the invasive species present in the understory.

Unit: 2 **Date of Visit:** 6/6/2014
Acreage: 0.2 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	Grey birch	<5' & 5-30'			Foot traffic Trash
Deciduous	Black tupelo	<5' & 5-30'			
Lianas	Red Maple	<5' & 5-30'			
Level	Silver maple	<5' & 5-30'			
Moist	Multiflora rose	<5'			
	Catbrier	<5'			

Comments:

Seasonally wet closed forest of grey birch with Black Tupelo, red and silver maples, and sweetgum. Understory of Rose, catbrier, arrowwood and silky dogwood. Other species include: Rubus spp., Phragmites, goldenrod, poison ivy, Virginia creeper, water hemlock, Pin oak, swamp white oak, low blueberry ferns. The unit is a management concern because of the invasive species and the tires, trash and floatable debris present in the unit.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 5 **Date of Visit:** 6/6/2014
Acreage: 1.7 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest Deciduous Chamaephytes Level Moist	Sweetgum Burr oak Arrowwood	all >30' & 5- <5' & 5-30'		Road	Foot traffic Dumping

Comments:

A forest of mostly sweetgum with an understory of arrowwood where the canopy is open. The unit represents a wooded swamp, indicated by soils rich in peat. Some pin oaks, red maple, silver maple and Sassafras. Some trees covered by Virginia creeper and poison ivy. Unit borders DEC property and a Phragmites swamp. Other spp.: catbrier, Joe-pye weed, daisy fleabane, silky dogwood, Japanese honeysuckle, goldenrod, rose, swamp rose mallow, Rubus spp., black tupelo, mugwort, oxeye daisy, aster, common ragweed, gray birch, big-toothed aspen, winged sumac, sensitive fern, elderberry, curly dock, Queen Anne's lace, orchard grass, hawthorn, white oak, and common milkweed.

Unit: 7 **Date of Visit:** 6/6/2014
Acreage: 2.4 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous Geophytes Slope Dry/Moist	Beach grass	<5'		Culvert	Foot traffic Flotsam Trash

Comments:

Sand and gravel beach with beachgrass, seaside goldenrod, spurge spp., beach dock, and lots of driftwood & flotsam. Other spp.: lamb's quarters, spearscale, wild bean, little bluestem, curly dock, Japanese hops, Sunflower spp., common ragweed, dogbane, bindweed, and lots of sponges. Management concern because of the trash and marine floatables present in the unit.

Unit: 8 **Date of Visit:** 8/8/2014
Acreage: 1.7 **Management Concern:** Yes

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 10 **Date of Visit:** 6/6/2014
Acreage: 0.9 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Swamp rose mallow	>5' & 5-30'			
Deciduous	Black Tupelo	5'-30'			
Hemicryptophytes					
Level					
Surface Water					

Comments:

Thickly vegetated patch of swamp rose mallow in standing water. Other species mostly around the borders: silver maple, silky dogwood, Virginia creeper, red maple, sweetgum, and arrowwood.

Unit: 11 **Date of Visit:** 6/6/2014
Acreage: 0.8 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Phragmites	<5' & 5-30'	Yes		
Deciduous	Switch grass	<5'			
Geophytes	Mugwort	<5'	Yes		
Level	Little bluestem grass	<5'			
Moist	Groundsel Bush	<5' & 5-30'			
	Locust, black	<5' & 5-30'			

Comments:

Moist meadow of switch grass and phragmites with some bayberry and false indigo bush also present. Other spp.: mugwort, evening primrose, chicory, bladder campion, sweet white clover, Queen Anne's lace, curly dock, common mullein, moth mullein, yarrow, common milkweed, goldenrod, redtop grass, Canada hawkweed, white mulberry, butter-and-eggs, pepperweed, seaside goldenrod. A small shrine was made out of marine debris in this unit.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 14 **Date of Visit:** 6/6/2014
Acreage: 3.3 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Red maple	<5' & 5-30'			Foot traffic
Deciduous	Sweetgum	<5' & 5-30'			
Chamaephytes	Black locust	<5' & 5-30'			Dumping
Level	Bittersweet	<5'	Yes		
Moist	Porcelainberry	<5'	Yes		
	Mugwort	<5'	Yes		

Comments:

Large woodland bordering a southern wet meadow (unit 9) and a sweetgum- red maple forest. A much diversified unit containing shrubs, trees, and vines of varying heights. This unit has become a more patchy mosaic of vegetation after hurricane Sandy. Some household and playground dumping in the unit. Other species present include: Japanese honeysuckle, blackberry, Ailanthus, silky dogwood, goldenrod, arrowwood, black cherry, pin oak, bindweed, Virginia creeper, rose, black walnut, garden phlox, switchgrass, yarrow, poison ivy, deer-tongue grass, Phragmites, Joe-pye weed, common ragweed, catbrier, lettuce spp., elderberry, sensitive fern, ash spp., and pokeweed.

Unit: 15 **Date of Visit:** 6/6/2014
Acreage: 0.3 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Jewelweed	<5'			
Deciduous	Dogwood, silky	<5'			
Therophytes					
Level					
Surface water					

Comments:

Wet clearing south of the ballfields. Vegetation covers standing water. Other spp.: sensitive fern, water plantain, Joe-pye weed, red maple, warm season grasses, Carex sp, arrow-leaved tearthumb, New York ironweed, etc.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 16 **Date of Visit:** 6/6/2014
Acreage: 2.5 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Cottonwood, eastern	all		Landfill	
Deciduous	Mugwort	<5'	Yes		
Hemicryptophytes	Aster spp.	<5'			
Level					
Dry/Moist					

Comments:

This unit is south of active ballfields. Previously landfilled. Some Eastern cottonwoods on the edge. Other spp.: barnyard grass, Queen Anne lace's, foxtail grass, chicory, daisy fleabane, red clover, white clover, clotbur, Phragmites, goldenrod, willow spp., great ragweed, bull thistle, sweetgum, Jerusalem artichoke, path rush, tick-seed sunflower, poison ivy, black locust, aster spp., common plantain, English plantain, nut sedge, mimosa, and purple gerardia.

Unit: 17 **Date of Visit:** 6/6/2014
Acreage: 0.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Norway maple	>30' & 5-	Yes	Landfill	
Deciduous	Silver maple	>30' & 5-			Trash
Lianas	Ailanthus	all	yes		
Slope					
Dry/Moist					

Comments:

Maple woodland with poison ivy and rose understory. Stream from culvert under Butler Boulevard crosses the northern end of the unit which looks onto private yards. Many roadside species and garden escapes. Other sp: sweetgum, black cherry, American basswood, black walnut, red maple, hackberry, jewelweed, Osage orange, hosta, smartweed, great ragweed, water hemlock, etc... The unit is a management concern because of trash and presence of invasive species.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

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Unit: 18 **Date of Visit:** 6/6/2014
Acreage: 0.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Black cherry	<5' & 5-30'		Landfill	Trash
Deciduous	Tulip tree	<5' & 5-30'			
Hemicryptophytes	Hornbeam	<5' & 5-30'			
Slope Dry/Moist	Oak spp.	<5' & 5-30'			

Comments:

Unit borders Butler Boulevard and private houses. Spring 2009 Million Trees planting site. Other sp: hackberry, silver maple, white mulberry, Ailanthus, Sassafras, mimosa, Queen Anne's lace, Japanese honeysuckle, common plantain, evening primrose, curly dock, poison ivy, white vervain, goldenrod, mugwort, common ragweed, red clover, orchard grass.

Unit: 19 **Date of Visit:** 6/6/2014
Acreage: 4.7 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	Black cherry	>30' & 5-		Foundation	
Deciduous	Sassafras	all			
Lianas	Red maple	>30' & 5-			
Undulating Dry/Moist					

Comments:

A black cherry, Sassafras, and red maple forest with poison ivy, catbrier and arrowwood understory. Disturbed area on the corner of Hylan Boulevard and Butler Boulevard, with many roadside species and garden escapes. Other sp: Eastern hemlock, burr oak, elm sp., Austrian pine, gray birch, pin oak, silver maple, aster, ash spp., white mulberry, Ailanthus, hop hornbeam, tulip tree, spicebush, bayberry, blackhaw, Virginia creeper, wild grape, wild rose, wineberry, wild bleeding heart, spiderwort, Joe-pye weed, day lily, wild lily-of-the-valley, stickseed, Polygonum spp., Panicum sp., warm season grasses, deer-tongue grass, pokeweed, common ragweed, common nightshade, bedstraw, partridge pea, lemon

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 22 **Date of Visit:** 8/8/2014
Acreage: 0.3 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Rice cut grass	<5'			
Deciduous	Bulrush	<5'			
Geophytes	Spikerush	<5'			
Level	Bedstraw	<5'	Yes		
Wet	Phragmites	<5'	Yes		

Comments:

A wet meadow of grasses, rushes, and sedges with alder and silky dogwood mixed in. Other spp.: button bush, black tupelo, red maple, grey birch, black cherry, arrowwood, high bush blueberry, pin oak, persimmon, Norway maple, swamp pink, sesame grass, groundnut, cut leaved water horehound and others.

Unit: 23 **Date of Visit:** 8/8/2014
Acreage: 1.1 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Aquatic (fresh)					
Deciduous					
Hydrophytes					
Depression					
Surface water					

Comments:

Pond with approximately 90% open water with 10% emergents and some buttonbush and phragmites. Species growing along the edges include: black willow, pussy willow, pin oak, sweetgum, gray birch, black cherry, red chokeberry, red maple, Ailanthus, Populus sp., arrowwood, winged sumac, mentha sp., cut-leaved water horehound, boneset, jewelweed, nettle sp., purple loosestrife and silky dogwood.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 24 **Date of Visit:** 8/8/2014
Acreage: 0.16 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Scrub	Buttonbush	<5'		Landfill	trash
Deciduous	Swamp pink	<5'			
Chamaephytes	Polygonum spp.	<5'			
Depression	Spikerush	<5'			
Surface water					

Comments:

Small open pond. Above species border the pond with some submerged aquatic plants. Soil compaction on one side. Some white oak and sweetgum around the edges. Frogs present. Duck weed, sensitive fern, Japanese knotweed, arrowwood viburnum, Rhododendron, and highbush blueberry.

Unit: 25 **Date of Visit:** 8/8/2014
Acreage: 0.11 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Sweetgum	>30'			Trash
Deciduous	White ash	>30'			
Phanerophytes	Black birch	5'-30'			
Depression					
Surface water					

Comments:

The seasonally wet area is close to Richard Avenue. There is some household trash and dumping.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 26 **Date of Visit:** 8/8/2014
Acreage: 0.08 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Scrub	Buttonbush	<5'			Trash Dumping
Deciduous	Sweet pepperbush	<5'			
Chamaephytes	Arrowwood	<5'	duck		
Level	<5'				
Surface water					

Comments:

Small but established pond with 60% cover by shrubs and trees. Some trash and old dumping. Other spp.: devil's walking stick, bayberry, red maple, wild sarsaparilla, pin oak, black birch, Rubus sp., catbrier, Virginia creeper, bittersweet, American beech, red oak, black tupelo, common burdock, sweetgum and others.

Unit: 27 **Date of Visit:** 8/8/2014
Acreage: 0.09 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Aquatic (fresh)	Bladderwort	<5'			Trash Dumping
	Sassafras	>30'			
Hydrophytes	highbush blueberry	<5'			
Level	Oak, pin	5'-30'			
Surface water	Sweetgum	>30' & 5-			
	Fern spp.	<5'			

Comments:

Pond with covering of bladderwort. High and lowbush blueberry along with cinnamon and royal fern along the edges. Sweetgum, black tupelo, pin oak, and red maple also present. There are many frogs. Some car parts and tires and around the pond.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 28 **Date of Visit:** 8/8/2014
Acreage: 0.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Duckweed	<5'			Dumping Auto Trash
Deciduous	Swamp loosestrife	<5'			
Chamaephytes	Buttonbush	<5'			
Depression					
Surface water					

Comments:

This unit is a pond with quite a diversity of plants in and around it. There is an old concrete structure and tires and other car parts dumped in and near the pond. Other sp: Red maple, black willow, sweetgum, gray birch, black locust, Ailanthus, Eastern cottonwood, hackberry, Sassafras, Virginia creeper, poison ivy, Rubus sp., sensitive fern, wild lily-of-the-valley, bittersweet, catbrier, periwinkle, Japanese knotweed, horsebalm, bulrush sp., and Carex sp..

Unit: 29 **Date of Visit:** 8/8/2014
Acreage: 0.3 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous	Arrow arum	<5'			Dumping Trash
Deciduous	Buttonbush	<5'			
Hydrophytes					
Level					
Surface water					

Comments:

Vegetated pond along Amboy Road with little open water. Few snags in the water and black willow borders Amboy Road. Many other sp: bulrush, duckweed, black tupelo, jewelweed, softrush, purple loosestrife, nightshade sp., Polygonum sp., Japanese knotweed ,red maple, catbrier, white mulberry, Sassafras, elderberry and water plantain.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 30 **Date of Visit:** 8/8/2014
Acreage: 0.4 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous Deciduous Geophytes Level Wet	Phragmites	<5' & 5-30'	yes	Landfill	

Comments:

Stand of Phragmites bordering Amboy Road. Area is wet with many species interspersed. Other sp: silky dogwood, Japanese honeysuckle, Virginia creeper, catbrier, poison ivy, smooth and winged sumac, clump of white poplar, goldenrod, switchgrass, sweetgum, dogbane, marsh elder, wild bean, black willow, hackberry, thistle sp., indigo bush, evening primrose, box elder, common mullein, hackberry, black cherry, sweet white clover, common ragweed, orchard grass, garden phlox, purple-top grass, deer-tongue grass, yarrow, bayberry, black locust, lettuce sp., white mulberry, big-toothed aspen, willow sp., gray birch, and blackberry.

Unit: 31 **Date of Visit:** 8/8/2014
Acreage: 0.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Aquatic (fresh) Deciduous Hydrophytes Level Surface water	Duckweed	<5'		Road drainage	Auto Dumping

Comments:

Fresh water pond covered with duckweed. Phragmites lines the west edge. There are two abandoned autos in the water. Other sp: hydrophytes, tussock sedge, skunk cabbage, black birch, black tupelo, Eastern cottonwood, grey birch, sweetgum, red maple, hickory spp., and white oak.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 32 **Date of Visit:** 8/8/2014
Acreage: 1.7 **Management Concern:** No

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	Pin Oak	>30'			Foot traffic
Deciduous	Catbrier	<5' & 5-30'			
Lianas	Red maple	<5' & 5-30'			
Level	Sweetgum	<5' & 5-30'			
Dry/Moist					

Comments:

Catbrier thicket with tall pin oaks along Calcutta Street. Appears to have been cleared by fire in the past. Some pioneering species invading. Other sp: black tupelo, sweetgum, Sassafras, white oak, winged sumac, gray birch, Joe-pye weed, grass spp., common ragweed, boneset, arrowwood, poison ivy and wisteria.

Unit: 33 **Date of Visit:** 8/8/2014
Acreage: 0.9 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Vineland	Multiflora rose	<5'	yes		Dumping Trash
Deciduous	Bittersweet	<5'	yes		
Lianas	Japanese honeysuckle	<5'	yes		
Slope	Norway maple	all	yes		
Dry/Moist	Red oak	<5' & >30'			
	Mugwort	<5'	yes		

Comments:

Badly eroded slope near Richard Avenue dominated by vines. Other sp: crabgrass, Panicum sp., redtop grass, Phragmites, partridge pea, yarrow, burdock, Queen Anne's lace, boneset, evening primrose, deptford pink, water hemlock, Rubus spp., common ragweed, gray birch, sweetgum, pin oak, winged sumac, Virginia creeper, bayberry, aster, daisy fleabane, goldenrod.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 34 **Date of Visit:** 8/8/2014
Acreage: 4.3 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	White Oak	>30'			Foot traffic
Deciduous	Pin Oak	>30'			
Lianas	American beech	all			
Undulating	Sweetgum	<5' & >30'			
Dry/Moist	Red Oak	all			

Comments:

Unit characterized by mature mixed species. Many large American beech, white oak, pin oak, and red oak. Sweetgum and silver maples of substantial size in the southern portion. Unit borders isolated house unit, Understory contains catbrier, young oaks, beeches, and sweetgum especially at pond edges. Other sp: black birch, Sassafras, red maple, American chestnut, maple-leaf viburnum, arrowwood, spicebush and wisteria.

Unit: 35 **Date of Visit:** 8/8/2014
Acreage: 25.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Red maple	all		Landfill	Auto
Deciduous	Black locust	>30' & 5-	Yes	Sidewalks	Dumping
Lianas	Sweetgum	all		Culvert	Foot traffic
Undulating	Cottonwood, Eastern	all			Dumping
Dry/Moist	Catbrier	<5'			Dirt bike

Comments:

Large tract of mixed species in forest south of long Pond transected by old roads/paths. The undulating topography creates seasonally wet depressions and pond sites, many of which are connected through drainage channels and culverts. Understory is dense with mostly catbrier. Unit lies within the buffering zone of mapped freshwater wetlands. Vehicle access and dumping are serious threats to the vegetation. Many abandoned autos and parts are found throughout. Area is active with many species of songbirds. Other sp: Ailanthus, gray birch, silver maple, black cherry, Sassafras, white ash, black tupelo, mimosa, big-toothed aspen, devil's walking stick, bebe willow, bayberry, winged sumac, Rubus sp., poison ivy, Virginia creeper, wisteria, Japanese honeysuckle, partridge pea, Joe-pye weed, Queen Anne's lace, yarrow, pink wild bean, goldenrod sp., common ragweed, Japanese knotweed, deptford pink, aster sp., grass sp., water hemlock, evening primrose, mushroom sp., mugwort, chicory, etc.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 36 **Date of Visit:** 8/8/2014
Acreage: 0.83 **Management Concern:**

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	Sweetgum	<5' & 5-30'			
Deciduous	Red maple	<5' & 5-30'			
Phanerophytes	Black birch	<5' & 5-30'			
Level	Swamp white oak	<5' & 5-30'			
Wet					

Comments:

This unit is an older Million Trees NYC reforestation site; the trees have grown into a healthy but dense forest.

Unit: 37 **Date of Visit:** 8/8/2014
Acreage: 3.9 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Scrub	Oak spp.	<5'		Ballfield	Bike tracks Soil
Deciduous	Red maple	<5'		Landfill	Vehicle Vandalism
Phanerophytes	Black birch	<5'		Fence	Foot traffic Dumping
Level	American linden	<5'			
Dry	Black tupelo	<5'			
	Hackberry	<5'			

Comments:

This unit is an active contract site and the Fall 2013 Million Trees NYC reforestation site. It used to be an active bike and ATV area with a lot of ragweed and crabgrass. This area also has a deer population that is actively browsing all the newly planted trees. There is still some evidence of active ATV and dirt bike tracks in the area. Species listed are some of the common forest restoration planting species planted by NRG staff in fall 2013.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 38 **Date of Visit:** 8/8/2014
Acreage: 0.12 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous Deciduous Geophytes Slope Moist	Phragmites	<5' & 5-30'		Landfill	Dumping Trash Erosion

Comments:

Phragmites units with some young trees of silver maple, Eastern cottonwood and Sassafras. Older trees of black willow and Eastern cottonwood border Amboy Road. Some dumping and trash. Areas may become seasonally wet. Same as unit 39, two non-contiguous areas.

Unit: 39 **Date of Visit:** 8/8/2014
Acreage: 0.31 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous Deciduous Geophytes Slope Moist	Phragmites	<5' & 5-30'		Landfill	Dumping Trash Erosion

Comments:

Phragmites units with some young trees of silver maple, Eastern cottonwood and Sassafras. Older trees of black willow and Eastern cottonwood border Amboy Road. Some dumping and trash. Areas may become seasonally wet. Same as unit 39, two non-contiguous areas.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 42 **Date of Visit:** 8/8/2014
Acreage: 44.7 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest	White Oak	all		Road	Foot traffic
Deciduous	Red Oak	all			Vehicle
Lianas	American beech	all			Dirt bikes
Undulating					
Dry/Moist					

Comments:

Extensive woodland characterized by white oak, red oak, and American beech. The unit contains NYSDEC mapped freshwater wetlands and buffer zones including several ponds. Northern section has many mature beeches and oaks, some 3ft in diameter. Understory is fairly open with catbrier and mapleleaf viburnum area bordering fire scarred unit 43 have more oak and denser understory. Southern section has dumped auto and erosion from dirt bikes and ATVs. Represents some of the most outstanding forest in the city. Other sp: hickory sp., gray birch, American chestnut (in fruit), Sassafras, chestnut oak, black tupelo, red maple, swamp white oak, pin oak, lowbush blueberry, bayberry, wild lily-of-the-valley, Rhododendron sp., wild sarsaparilla, poison ivy, spicebush, arrowwood, Virginia creeper, wild bleeding heart, cinnamon fern, sensitive fern, black birch wafer ash and Indian pipe.

Unit: 43 **Date of Visit:** 8/8/2014
Acreage: 45.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Woodland	Sassafras	all		Road	Vehicle
Deciduous	Pin Oak	>30' & 5-		Sidewalks	Foot traffic
Lianas	Cottonwood, Eastern	all			Dirt bikes/ATV
Undulating	Catbrier	<5' & 5-30'			Fire
Dry/Moist					

Comments:

Large woodland scarred by old fires. Sassafras of varying ages dominate. Catbrier dominates understory. Most of the species diversity in this unit is near the paths. Some large pin oaks and American chestnuts. The northern section is marred by massive erosion by vehicles especially dirt bikes and ATVs. Shells of stripped and burned cars are found throughout the unit covered in catbrier and sassafras. Unit contains NYSDEC mapped freshwater wetlands and buffer zones. Other sp: sweetgum, black locust, big-toothed aspen, red oak, white oak, black cherry, white ash, white mulberry, Ailanthus, royal Pawlonia, black tupelo, spicebush, witch hazel, bayberry, poison ivy, wisteria, Japanese knotweed, Virginia creeper, Japanese honeysuckle, Rubus sp., wild grape, pokeweed, mugwort, dogbane, boneset, Joe-pye weed, wild sarsaparilla, butter-and-eggs, common nightshade, prickly lettuce, Lactuca sp., sweet white clover, panicked tick-trefoil, Polygonum sp., etc... There is a lot of stilt grass on the edge of the paths close to Eugene St. entrance.

Long Pond Park Entitation Unit Descriptions, Surveyed 2014

Unit: 44 **Date of Visit:** 8/8/2014
Acreage: 1.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Herbaceous Deciduous Geophytes Level Wet	Phragmites	<5' & 5-30'	yes	Culvert	Dumping Trash

Comments:

Small wet area dominated by Phragmites near the corner of Page Avenue and Amboy Road. Area is cut off from the lower mixed wet forest. Culvert system links unit across a paved road. Other spp.: red maple, buttonbush, Polygonum spp., fire weed, cattails, spike rush, nut sedge, smartweed, chairmaker's rush, warm season grasses, Solidago spp., gray birch, black tupelo, and bull thistle.

Unit: 45 **Date of Visit:** 8/8/2014
Acreage: 9.5 **Management Concern:** Yes

<u>Site:</u> <u>Disturbances</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>
Closed Forest Deciduous Chamaephytes Undulating Moist	Sweetgum Red maple	all all		Road	Foot traffic Dumping Trash

Comments:

Mixed forest with seasonally wet depressions and drainage channels bordering Page Avenue and Eugene Street. Area is mapped as a N.Y.S. freshwater wetland and buffering zone. Unit surrounds pond site (unit 31). Some wet depressions are covered in, Phragmites, the rest of the area contain more dense shrub/herbaceous layers including spicebush, lizard's tail, and catbrier. Dumping and old cars are serious concerns. Many abandoned vehicles in this area. Other sp: white oak, pin oak, swamp white oak, Black tupelo, white ash, hickory sp., American beech, black cherry, black locust, Ailanthus, black willow, Catalpa, Eastern cottonwood, white mulberry, Rubus spp., elderberry, Japanese honeysuckle, poison ivy, Virginia creeper, bracken fern, cinnamon fern, sensitive fern, horsetail, white wood aster, Jack-in-the-pulpit, common ragweed, violet sp., lizard's tail, pokeweed, enchanter's nightshade, aster spp., wild lily-of-the-valley, boneset, cut-leaved water horehound, Japanese knotweed, Joe-pye-weed, and stilt grass on the edge of the trails.