Natural Area Mapping and Inventory of Raoul Wallenberg Forest 2005 Survey

Prepared by the Natural Resources Group
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Raoul Wallenberg Forest Natural Area Mapping & Inventory

Surveyed 2005
11 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. In addition to the goals mentioned above, NRG serves as a clearinghouse for technical research to aid in the protection and restoration of the city's natural resources. This inventory of Raoul Wallenberg Forest was conducted in 2005 as part of NRG's commitment to improving the natural areas of New York City parks.

The Park's namesake was a Swedish diplomat stationed in Budapest, who used his position to rescue Hungarian Jews from concentration camps during the Second World War. He accomplished this largely by distributing counterfeit passports. Wallenberg also purchased property and designated it neutral diplomatic territory to safely house refugees, and stockpiled food to distribute to the needy or as bribes. All told, Raoul Wallenberg saved an estimated 100,000 people from imprisonment and likely death. He disappeared in January 1945, after leaving Budapest to meet with Soviet military officers. His fate remains unknown.

Though small, Raoul Wallenberg Forest's beauty honors this great man's memory. The property borders the southeastern edge of Riverdale Park. The forest, which also includes large tracts of vineland, hosts dozens of bird species, including the downy woodpecker, red-tailed hawk, and white-throated sparrow. The park contains many trees with trunks larger than 30 inches in diameter, including two "Great Trees." The City acquired Raoul Wallenberg Forest in 1990.

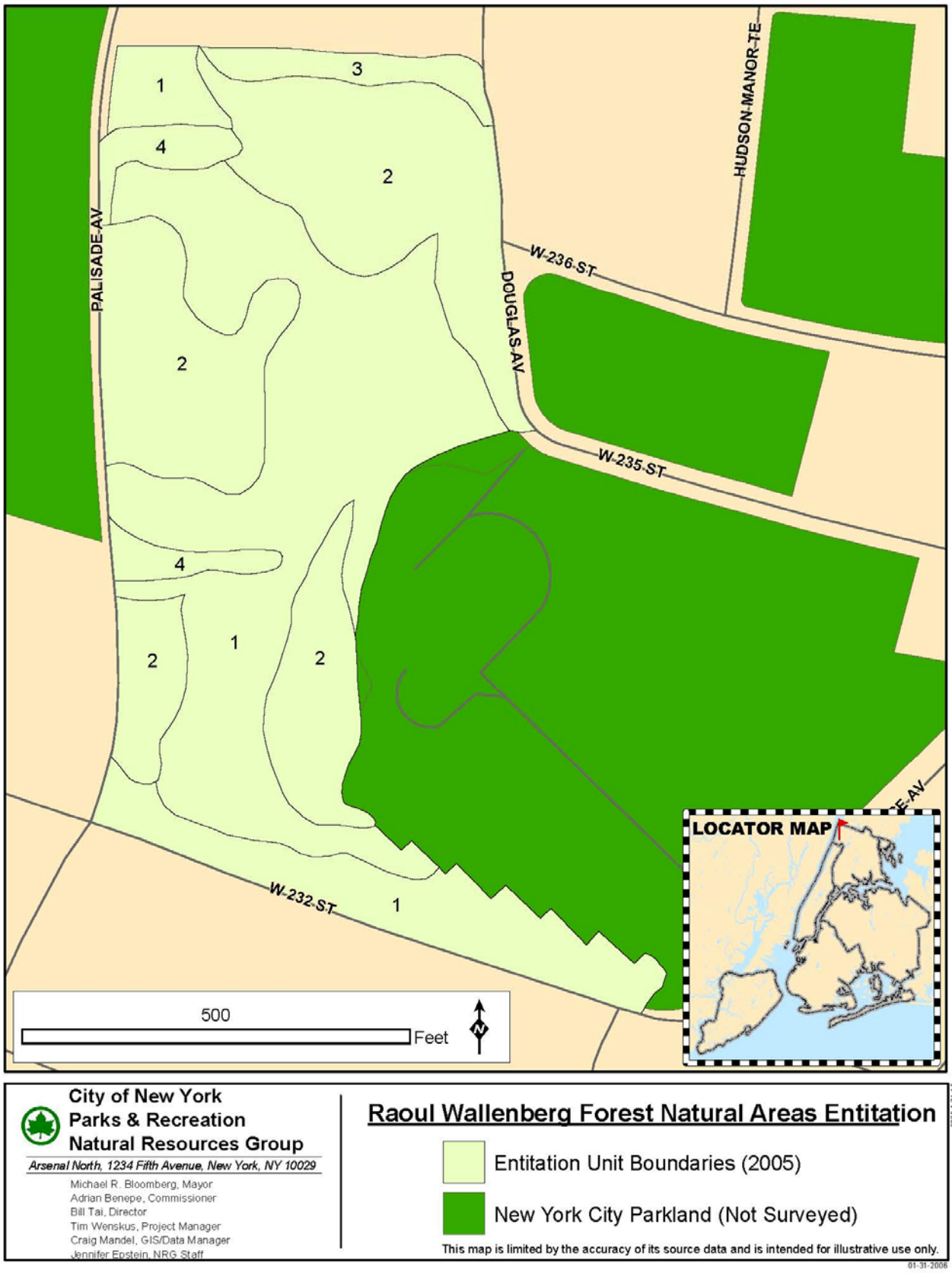
To facilitate the protection, management and restoration of Raoull Wallenberg Forest, NRG completed an inventory of the area using entitation, a process of identifying and describing ecologically distinct plant communities. Using aerial photographs and field reconnaissance, Parks staff delineated distinct ecological entities, known as entitation units, based on cover type, understory structure, species composition, and topography. Evidence of historical use, current use, environmental disturbance, and additional notes were also recorded for each unit. Entitation of Raoull Warrenberg Forest resulted in a map and database that can be used to locate valuable and threatened areas. They also serve as a baseline for measuring change over time.

Entitation

Entitation is a type of plant community inventory well suited to the patchy environments often found in urban areas. Originally designed for European landscapes, the system was revised by NRG in 1985 for use in urban parkland. NRG has used entitation widely and successfully to facilitate acquisition and restoration

decisions. Put simply, entitation is a process of breaking up a park into manageable parts called “entities” or “entitation units.” Entitation units are defined using a weighted list of criteria. The first level of distinction is based on cover type (e.g. closed forest, vineland, scrub), followed by canopy species composition, understory type (e.g. herbs, vines, shrubs), and understory species composition. Additional factors, such as topography and soil condition (e.g. wet, moist, dry) are also taken into account.

To prepare for fieldwork, mapping technicians examine aerial photographs and delineate areas of similar cover. The mapping staff use the aerial information to create a strategy for covering land area. In the field, boundaries are identified as described above. For each unit, staff record the data listed above, as well as current uses, environmental disturbances, historical indicators, community stability, and comments.



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Raoul Wallenberg Forest Natural Areas Entitation

Entitation Unit Boundaries (2005)

New York City Parkland (Not Surveyed)

This map is limited by the accuracy of its source data and is intended for illustrative use only.

01-31-2006

2005.1.31.15

Unit: 1
Acreage: 5.83
Mgmt. Concern: No

Site	Species	Height	Exotic	Historical	Uses	Disturbances
Closed Forest	Maple, Norway	all	Yes	Fence	Campfire	Trash
Deciduous	Locust, black	>30'		Structure		
Phanerophytes	Oak, red	<5' & >30'				
Slope	Honeysuckle, bush	<5' & 5-30'	Yes			
Dry/Moist	Hickory, bitternut	>30'				

Comments:

This unit runs along the southeast section of the park, between the tennis courts and West 232nd Street, from Independence Avenue west to Palisade Avenue. It also occupies the central portion of the park, north to West 236th Street, and the narrow strip of parkland between Palisade Avenue and the private property at the north end of the park. There are unpaved pathways which run through the unit. The unit boundary along West 232nd Street is fenced with chain link fencing. The canopy is Norway maple of various ages. Black locust can be found sprinkled through the unit. The understory ranges from nearly barren with a few saplings to more densely vegetated with herbs, briers, vines, shrubs, and saplings. Other species: garlic mustard, poison ivy, Virginia knotweed, bush honeysuckle, jewelweed, white mulberry, Oriental bittersweet, Rubus, sycamore maple, black cherry, tulip tree, Virginia creeper, jetbead, mugwort, black oak, slippery elm, horse chestnut, winter black nightshade, yew, winged euonymus.

Unit: 2
Acreage: 4.49
Mgmt. Concern: Yes

Site	Species	Height	Exotic	Historical	Uses	Disturbances
Woodland	Locust, black	>30'				
Deciduous	Grape, wild	<5' & 5-30'				
Lianas	Porcelain-berry	<5' & 5-30'				
Slope	Honeysuckle, bush	<5' & >30'	Yes			
Dry/Moist	Wild cucumber	<5' & 5-30'				

Comments:

The canopy of this unit is composed of patchily connected black locust crowns. Vines are growing from the ground, up the tree trunks, and into powerlines. Other species: slippery elm, jewelweed, garlic mustard, pokeweed, multiflora rose, staghorn bush honeysuckle, bitternut hickory, tulip tree, smartweed, Japanese knotweed, mugwort.

Unit: 3
Acreage: 0.33
Mgmt. Concern: No

Site	Species	Height	Exotic	Historical	Uses	Disturbances
Closed Forest	Maple, Norway	>30' & 5-30'	Yes	Fence		Trash
Deciduous	Oak, white	>30'				
Lianas	Ivy, English	<5'	Yes			
Slope						
Dry/Moist						

Comments:

This unit is composed of a few large Norway maples with a full subcanopy of Norway maple saplings. There is one massive white oak growing in this unit. A chainlink fence bisects the area. The herbaceous layer is virtually non-existent, though leaf and small woody debris cover the forest floor. Vines appear to have once grown up some of the trees but were removed. There are tennis courts to the north. A flight of stairs partially borders the unit to the southeast. Other species: bush honeysuckle, black locust. Regenerating species: Norway maple, black locust.

Unit: 4
Acreage: 0.42
Mgmt. Concern: Yes

Site	Species	Height	Exotic	Historical	Uses	Disturbances
Closed Forest	Birch, black	all				
Deciduous	Cherry, black	5'-30'				
Phanerophytes	Locust, black	>30' & 5-30'				
Slope	Ailanthus	5'-30'				
Dry/Moist	Oak, black	>30'				

Comments:

The western border of this unit is defined by a dirt footpath that runs to Palisade Ave. Black birch is the dominant tree in the canopy. The understory is a jumble of saplings, vines, and shrubs. The oaks in this unit are large and contribute greatly to the canopy. On the lower slope, the canopy contains Ailanthus and black locust. Further upslope, black cherry, black oak and black birch can be found. Other species: poison ivy, bush honeysuckle, bitternut hickory, tulip tree, Virginia creeper, Rubus, Virginia knotweed, garlic mustard, lady's thumb, Norway maple, Oriental bittersweet. Regenerating species: black birch, black locust, bitternut hickory, Norway maple.

APPENDIX: Glossary

Many of these definitions are adapted from Marge Garguillo's unpublished *Plants of New York City Natural Areas: An ecological manual* (2005).

Chamaephyte: Mature branch or shoot system remaining perenially less than or equal to 100in above ground. Buds are produced on aerial branches close to the soil. (e.g. shrubs)

Closed forest: An area formed by trees at least 15 feet tall with interlocking crowns and at least 80% canopy closure.

Competition: The ability of one plant to overwhelm another plant by shading it out or otherwise overwhelming it.

Deciduous: Majority of trees shed their foliage in the autumn months.

Depression: A hollow, or low point, as compared to the surrounding topography. May or may not contain water.

Dominant: The most abundant plants in a particular plant community. A **codominant** plant is about equally as abundant as the dominant species.

Exotic: A species that does not naturally inhabit a specific area. An exotic plant may or may not be invasive where it is introduced.

Exotic planting: A gardened area where non-native species (e.g. privet, periwinkle) are tended.

Full-crown tree: Initially open-grown and free of competition: currently very large with a dominating crown.

Geophyte: Plants with buds or shoots surviving below the ground (rhizomes, bulbs, stem tubers, root tubers.)

Graminoid: Grasses and grass-like plants.

Hedgerow: Evidence of trees or shrubs planted in line i.e., maple or privet along road or path.

Hemicryptophyte: Shoots die back to ground level.

Herb: Plants without woody tissues that die back to the ground in the winter. This classification is usually applied to broad-leaved plants rather than grasses, but includes grasses for the purpose of entitation.

Herbaceous community: An area where grasses, grasslike plants, and herbaceous plants are predominant. Woody plants may be sparingly present, but cover less than 30% of area.

Intertidal Communities: Substrate is exposed and flooded by tides, includes the associated splash zone.

Invasive plant: A plant species that grows and reproduces without constraint, crowding or shading out other plants. The term is usually applied to plants that are not native to the given region. Invasiveness in a plant that is native to the region is rare and probably caused by unusual circumstances.

Knoll: A small isolated hillock.

Landfill: Topography altered by previous filling or dumping: i.e., while building a road or altering a wetland area. Look for rubble on the soil surface or sudden changes in grade.

Lianas: Vascular plants needing support, rooting in the ground permanently (vines).

Native plant: Plants that were growing in this region before Europeans came to North America. Native plants are adapted to the climate and soils of their region. They have relationships with birds, mammals, insects, and fungi and are integrated into the ecology of the region. New York City's native plants come from seed that spread northward after the last glaciers melted thousands of years ago.

Ornamental: Plants used as horticultural specimens in gardens or developed parks, not intended to reproduce or be part of a natural plant community. Very often they are non-native plants.

Phanerophyte: Plants that grow taller than 100 in. or whose shoots do not die back periodically to that height (e.g., trees).

Scrub: A shrubland or thicket, mainly composed of woody plants 1.5 to 15 feet tall.

Slope: Ground that forms a natural or artificial incline.

Soil compaction: Increasing soil density and decreasing porosity due to application of mechanical forces to the soil: i.e. due to vehicle, horse, or foot traffic.

Species: A group of organisms that can interbreed to produce fertile young.

Understory: Habitat below the tree canopy of a forest. The understory is a plant community of tree saplings, shrubs, herbs, graminoids, and mosses that can live in shade or part shade.

Undulating: The area has a wavy surface. Its neither a slope, a level area, or a depression, but rather a combination of all three.

Vineland: An area formed by at least 30% vines. Vines may be supported by vegetation, artificial means or ground surface. Often occurs on the forest or shrub border.

Woodland: An area formed by trees at least 15 feet tall, with most of their crowns not touching each other, but at least 30% canopy closure.