Natural Resources Management Plan:

Silver Lake Preserve

Old Lake Street, West Harrison, NY

DRAFT

4/11/24

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Background

Silver Lake Preserve is a 237-acre nature preserve located in West Harrison, New York. The park is primarily forested, with the exception of the 42-acre lake. Several habitat types are supported within the Park including a large wetland, several vernal pools, red maple swamps, streams, and talus slopes.

The Park supports passive recreation such as hiking and bird-watching. However, it is currently also heavily used by dog walkers and fisherman.

[Expand this section. Include Watershed info].

Natural History

Silver Lake was formed around 1700 through construction of a dam across the Mamaroneck River. The lake was used to power a grain mill. Silver Lake is part of the Mamaroneck River watershed. The streams in the park originate from the Mamaroneck River and Rye Lake. They all run into Silver Lake and eventually the Mamaroneck River.

There are three types of bedrock in Silver Lake Park. Inwood Marble lays under the lake, Yonkers Gneiss accounts for a small portion in the eastern section, and Fordham Gneiss which makes up for a majority of the park. [insert map here?] Inwood Marble originated from limestone during the Paleozoic Era, around 541 to 252 million years ago, through metamorphism caused by tectonic activity forming the Appalachian Mountains. Yonkers Gneiss and Fordham Gneiss are some of oldest rocks in the world that formed during the Precambrian era, around a billion years ago, when intense heat and pressure from a continental shift altered existing rocks.

The dominant soil type of Silver Lake Park is Culvers channery silt loam, which forms from glacial deposits in areas with a steep slope of 15-25%.

Cultural History

The land on which Silver Lake Park sits was purchased from the Siwanoy Native Americans in 1695 by John Harrison. William Haight, one of John Harrison's partners in this transaction, was a member of the Society of Friends, more commonly known as the Quakers. While the other partners disposed of their shares by the early 1700s, Haight encouraged Friends from Flushing and other Long Island towns to join him as the first white settlers of Harrison. They began a farming community in the north of town that became known as Purchase and in 1727 erected their first meeting house.

Silver Lake was known during colonial times as Horton's Pond. The Horton family operated a grain mill powered by water from the pond. The mill was host to a two-day battle during the Revolutionary War. The hills in the park served as hiding places for the storage of ammunition by Colonial soldiers. The old mill still stands today but is used as a residence independent of the park. The lake was also known as St. Mary's Lake after the Virgin Mary.

Many of the Quakers who moved to the area owned and brought slaves with them. The slaves were freed by the Quakers between 1773 and 1783. As economic compensation to their former slaves, Friend Frederick Stephens offered “the rough lands in the northwestern portion of the Town of Harrison” as a settlement and farmland for emancipated slaves. The Quakers also built simple houses for each of the families and provided them with land for a church. Thus, the community often known as Stony Hill was begun, part of which now exists in remnant form in the northern section of Silver Lake Park.

[insert mapping of historical structures within the park]

Throughout the 19th century into the early 20th century, the Stony Hill community stood within the park as well as extended along Stony Hill Road and north of Buckout Road, comprising of at least 26 simple homes and other structures. Gradually, the families moved on and the wooden homes burned down, leaving only their stone foundations. Silver Lake Park was created in 1924 and 1925, and the last family left the area in 1941.

After acquisition of the parkland, the park trails, including stone steps that lead up steep inclines to views of the lake, were constructed by members of the Depression-era Work Projects Administration and Civilian Conservation Corps programs. There was a C.C.C. camp in the northwest portion of the park during the 1930’s.

In the later part of the 20th century, the park was rehabilitated and expanded as a contrast to the increasing development around the property and to provide recreational opportunities to the influx of new residents. In 1985, the park became fully accessible to the public with a new entrance, parking area, and marked trails.

Silver Lake Preserve Soil Composition

Below are soil types found within Silver Lake Preserve. This data was obtained using the USDA Soil Survey. Refer to descriptions of each soil type below the table made from additional data from the USDA Soil Conservation Service.

Soil Code	Name of Soil	Acerage Present in Silver Lake Preserve	Percent Soil Composition of Preserve
ChC	Chenango and Howard gravelly loams (5-15% slopes)	6.56	2%
ChE	Chenango and Howard gravelly loams (25-40% slopes)	7.72	3%
CrC	Charlton-Chatfield complex, rolling, very rocky	52.94	17%
CsD	Chatfield-Charlton complex, hilly, very rocky	19.6	6%
CtC	Chatfield-Hollis-Rock outcrop complex, very rocky	25.55	8%
CuD	Culvers channery silt loam (15-25%)	98.28	32%
HrF	Hollis-Rock outcrop complex, very steep	19.93	6%
KnB	Knickerbocker fine sandy loam (2-8% slopes)	0.64	0%
Pc	Palms and Carlisle soils, ponded	1.49	0%
PnC	Paxton fine sandy loam, (8-15% slopes)	2.13	1%
Sh	Sun loam	11.07	4%
Sm	Sun loam, extremely stony	3.78	1%
Ub	Udorthents, smoothed	13.82	4%

UhB	Urban land-Charlton complex (2-8%)	0.35	0%
UpB	Urban land-Paxton complex (2-8% slopes)	0.14	0%
W	Water	43.12	14%

ChC – Chenango and Howard gravely loams (5-15% slopes)

This soil is deep, well drained to somewhat excessively drained and medium textured. It occupies moderately sloping rolling areas and moderately sloping knolls that slope in many directions. It occurs mainly on dissected glacial outwash terraces in the valleys and rolling areas in the uplands. The unlimed solum is medium acid to neutral. Permeability is moderate to rapid in the solum and very rapid in the substratum. The available water capacity is moderate in the rooting zone. Natural fertility is medium. The complex slopes make intensive cropping difficult, consequently most of this soil is best suited for hay, pasture, or woodland. The main limitation is an erosion hazard on the steeper slope when cultivated. The complex topography and short slope make erosion control difficult.

ChE – Chenango and Howard gravelly loams (25-40% slopes)

This soil is deep, well drained to somewhat excessively drained and medium textured. It occupies steep and very steep areas on valley walls and steep slopes along streams. The unlimed solum is medium acid to neutral. Permeability is moderate to rapid in the solum and very rapid in the substratum. The available water capacity is moderate in the rooting zone. Natural fertility is medium. The steepness of slope makes this soil best suited to woodland or native pasture. The severe erosion hazard and droughtiness also limit its use.

CrC – Charlton-Chatfield complex, rolling, very rocky

This soil is very deep, well-drained Charlton soil, and the moderately deep, well-drained, or somewhat excessively drained Chatfield soil. It is located on ridges and hilltops that are underlain by folded bedrock. Individual areas are about 40 percent urban land, 20 percent Charlton soil, 15 percent Chatfield soil, and 25 percent other soils and rock outcrop. Exposed bedrock covers up to 10 percent of the surface. Depth to bedrock is variable.

CsD – Chatfield-Charlton complex, hilly, very rocky

This unit consists of very deep and moderately deep, well drained and somewhat excessively drained Chatfield soils and the well-drained Charlton soil. This unit is generally located on the tops and sides of hills that are underlain by highly folded bedrock. They are about 45 percent Chatfield soil, 35 percent Charlton soil, and 20 percent other soils and rock outcrop. The rock outcrop soil component typically covers 2–10 percent of the surface of this mapping unit. The CsD mapped area includes components of moderately well-drained Sutton soils, the somewhat poorly drained and poorly drained Leicester soils, and the poorly drained and very poorly drained Sun soils. Also included are the very poorly drained Carlisle and Palm soils, the somewhat excessively drained and well drained Hollis soils, and

CtC – Chatfield-Hollis-Rock outcrop complex, very rocky
This unit consists of the rolling, moderately steep, well drained and somewhat excessively drained Chatfield soil, the shallow, well drained and somewhat excessively drained Hollis soil, and areas of Rock outcrop, dominantly granite, gneiss, and schist. Ths unit is on hilltops and narrow ridges in bedrock-controlled landscapes. Slopes dominantly range from 3 to 15 percent. Individual areas of this unit are mostly irregular in shape and range from 2 to 100 areas in size. They are typically about 30 percent Chatfield soil, 30 precent Hollis soil, 20 percent Rock outcrop, and 20 percent other soils.

CuD – Culvers channery silt loam (15-25% slopes)

This is a moderately well drained, loamy soil formed in compact, reddish colored glacial till. The landscape is a moderately steep plateau side slope. Permeability is moderate in the upper 2 feet, below that it is slow. This soil contains a moderate amount of angular stone fragments. Commonly bedrock is encountered at depths of 4 to 12 feet.

HrF – Hollis-Rock outcrop complex, very steep

These soils are shallow, very steep, well drained and somewhat excessively drained Hollis soil and areas of rock outcrop. Slopes range from 35 to 60 percent. Made up of about 60 percent Hollis soil, 20 percent Rock outcrop, and 20 percent other soils. Bedrock is typically 0 to 20 inches below the surface. Water table is typically more than 6 feet below the surface. Surface runoff is very rapid and erodibility is high principally due to the slope.

KnB – Knickerbocker fine sandy loam (2-8% slopes)

This soil is gently sloping, very deep, and somewhat excessively drained. It is in benchlike areas along streams and on rounded hilltops. Individual areas are somewhat oblong or rounded and range from 2 to 30 acres in size.

Pc – Palms and Carlisle soils, ponded

This unit consists of nearly level, very deep, very poorly drained soils in depressions or in areas bordering lakes or streams. These soils are inundated throughout most of the year. The relative proportion of these two soils varies from one area to another. Some areas are made up entirely or one of the soils, and other areas contain both soils. Slopes are 0 to 1 percent. Individual areas are irregularly shaped or roughly oval and range from 2 to 30 acres in size.

PnC – Paxton fine sandy loam (8-15% slopes)

This soil is strongly sloping, very deep, and well drained. It is on the sides and tops of broad ridges and small hills. Individual areas are irregularly shaped or are long and narrow. They range from about 2 to 75 areas in size.

Sh – Sun loam

This is a nearly level soil that formed in firm glacial till. It is on concave toeslopes between dumlinlike hills, in depressions and low broad flats, and along drainageways. It receives runoff from higher, adjacent soils. Slopes range from 0 to 3 percent. Many areas are long and narrow, and some areas are oblong in shape. Individual areas can range from 5 to 20 acres in size.

Sm – Sun loam, extremely stony

This soil is very deep, nearly level, and poorly drained or very poorly drained. It is in small depressions and along drainageways on till plains. Stones larger than 10 inches in diameter cover 3 to 15 percent of the surface and are 1.5 ot 4.0 feet apart. Individual areas are rounded or occur as long and narrow strips about 2 to 10 acres in size. Slopes range from 0 to 3 percent.

Ub – Udorthents, smoothed

This unit consists of very deep, excessively drained to moderately well drained soils that have been altered by cutting and filling. This soil unit is mainly located in and adjacent to urban areas, highways, and borrow (i.e., excavated) areas. It is made up of soil material in alternating layers ranging from sand to silt loam. Depth to bedrock is more than 60 inches. Included with this unit are small areas of Udorthents that have a wet substratum, areas of urban land, areas of rock outcrop, and areas of undisturbed soils, such as Riverhead, Charlton, Hollis, Leicester, and Sun soils. The Udorthents having a wet substratum are in areas that have been filled but that were formerly somewhat poorly drained to very poorly drained.

UhB – Urban land-Charlton complex (2-8% slopes)

This unit consists of areas of urban land and the very deep, well drained, and gently sloping Charlton soil. It is on ridges and hilltops that are underlain by folded bedrock. Individual areas are about 50 percent urban land, 25 percent Charlton soil, and 25 percent other soils.

UpB – Urban land-Paxton complex (2-8% slopes)

This unit consists of areas of urban land and the very deep, well drained, gently sloping Paxton soil. It is on ridges and hilltops that are underlain by folded bedrock. Individual areas are irregular and range from 5 to 100 acres in size. They are about 50 percent urban land, 25 percent Paxton soil, and 25 percent other soils.

W – Water

Body of water.

Forest Inventory Results:

In Summer 2023, a forest inventory of Silver Lake Preserve was performed. The forest inventory surveyed a total of 2,335 trees at 32 plots. Each plot was ¼ in size for a total of 8.75 acres surveyed. Data was also collected on shrubs and saplings but only trees of 5 in DBH or greater were included in the forest inventory analysis. A summary of the most common tree species are presented in the table below.

Species	Total Count	Estimate Trees Per Acre	Percent of Forest Composition
Sugar Maple	259	29.6	20%
Beech	164	18.7	13%
Black Birch	141	16.1	11%
Tulip	134	15.3	10.50%
Red Maple	76	8.7	6%
Red Oak	136	15.4	10.50%
Hickory Sp.	83	9.5	6.50%

[Expand this section. Include location specific results. I.E. how forest structure changes in different areas of park. Also include analysis of tree size.]

Beech Leaf Disease Response:

Forest inventory results revealed that beech is the second most common tree species present at Silver Lake Preserve. Beech trees are estimated to make up about 13% of the total tree cover.

Due to the prevalence of beech trees at Silver Lake, one of the priority management concerns at this site is promoting reforestation in beech stands. However, Silver Lake also poses unique challenges because the landscape is dominated by rocky slopes, making equipment transport and fence construction difficult.

Therefore, at Silver Lake specifically it is recommended that tubing of naturally regenerating seedlings and the planting of saplings in beech stands form the bulk of the beech leaf disease response at this particular park.

The tubing of seedlings can happen throughout the park as the materials are light weight and easier to transport throughout the woods. Tubing should be prioritized in stands where the highest concentrations of beech trees were found where natural regeneration is occurring.

Planting of saplings

The planting of saplings should be prioritized around the Lake where there is a high number of beech trees and where the loss of shade could have implications for the water quality of the Lake. Therefore, the north shore of the lake is the highest priority planting location. When planting along the lake, species should be selected based on estimated climate change

resiliency, ability to provide replacement resources for wildlife (as beech is a mast producing species), and ability to survive flood conditions based on the proximity to water. Therefore, species like black gum and red maple are good candidate species for reforesting efforts at Silver Lake. When reforesting rocky slope areas, species such as white oak or hickory species may be suitable options.

Vernal Pools

*_Insert vernal pool info here_*. Vernal pools will be shown on a map. A survey this Spring turned up abundant wood frog egg masses but no evidence of use by salamanders. Especially considering the two-lined salamander die-off observed in Summer 2022 in Silver Lake streams, it is recommended that a salamander survey be performed in the park.

Silver Lake

Data will be collected Summer 2024:

- Test water quality and assess extent of eutrophication
- Estimate turtle population. How much of a problem are invasive turtles? How healthy are native turtle populations?

Streams:

- Salamander survey
- Macroinvert assessments

Wetland:

[Write formal wetland section. Discuss size and location of wetland. Plants of interest abundant in this area. Designated a priority management location.]

Silver Lake Preserve Plant List

Below is a plant list for Silver Lake Preserve in White Plains, NY. This list was compiled by exporting Research Grade observations on iNaturalist.org within the confines of the preserve. Research Grade observations contain a valid date, location, photo or sound, and isn't of a captive/cultivate organism. All observations included have been reviewed and the iNaturalist community is agreement on the ID. Only species-level observations have been included.

Many iNaturalist observations were generated by Westchester County Parks staff as part of plant searches and bio-blitz surveys performed in preparation of this plan.

Non-Native and Invasive Species

Species denoted with an asterisk (*) are non-native species to the United States. These are organisms that do not occur naturally in an area, but are introduced as the result of deliberate or accidental human activities.

Species denoted with a caret (^) are invasive species to the United States. These are non-native organisms that cause harm to the environment, economy, or human, animal, or plant health. All invasive species are listed here with their relative invasive species tier, a categorized list to help inform management in accordance with regional priorities. The tier list puts species in categories based on impact, location, abundance, distribution, and feasibility of response. The Lower Hudson Partnership for Regional and Invasive Species Management (PRISM) tier List has been employed for this plant list and the categories are as follows.

Tier 1 Early Detection/Prevention: Highest level of early detection survey efforts. Should conduct delineation surveys and assign to appropriate Tier if detected.

Tier 2 Eradication: Highest level of early detection response efforts. High impact species with low enough abundance and suitable treatment method available to make eradication feasible within the PRISM. Need delineation surveys to determine extent.

Tier 3 Containment: Target strategic management to slow the spread, as likely too widespread for eradication, but many surrounding regions could be at risk if left unattended. For plants, use the IPMDAT. Possible eradication candidate only if adequate resources and effective control methods available.

Tier 4 Local Control: Eradication from PRISM not feasible; focus on localized management over time to contain, exclude, or suppress to protect high-priority resources like rare species or recreation assets. Be strategic when deciding if/where to control.

Tier M Monitor: Species that need more research, mapping, and monitoring to understand their invasiveness. This includes naturalized species and cultivated-only species that are known to be invasive in other regions but are not yet invasive here. Invasiveness may change with environmental or genetic changes. Should monitor populations on a regular basis to see if they are starting to become invasive and assign to appropriate Tier if invasive infestations detected.

Native and Rare Species

All native species are listed here with their relative New York State conservation status assigned by NatureServe, which indicates whether the species still exists and how likely the group is to become extinct in the near future. There have not been federal or state threatened and endangered species observed in the preserve. The state conservation statuses are as follows.

S1 Critically Imperiled: At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

S2 Imperiled: At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 Vulnerable: At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 Apparently Secure: At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 Secure: At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations of occurrences, with little to no concern from declines or threats.

SNR Unranked: State conservation status not yet assessed.

Phylum Bryophyta - Mosses

1.	*Aulacomnium palustrae*	Ribbed Bog Moss	SNR
2.	*Bryhnia novae-angliae*	New England Bryhnia Moss	SNR
3.	*Bryoandersonia illecebra*	Spoon-leaved Moss	SNR
4.	*Thuidium delicatulum*	Delicate Fern Moss	SNR
5.	*Sphagnum fimbriatum*	Fringed Bogmoss	SNR

Class Liliopsida – Monocots

Order Alismatales – Aroids, Water-Plantains, Seagrass, and Allies

6.	*Arisaema triphyllum*	Jack-in-the-Pulpit	SNR
7.	*Symplocarpus foetidus*	Eastern Skunk Cabbage	S5

Order Asparagales – Agaves, Orchids, Irises, and Allies

8.	*Allium tricoccum*	Wild Leek	S5
9.	*Maianthemum racemosum*	Solomon's Plume	SNR
10.	*Ornithogalum umbellatum*	Common Star-of-Bethlehem*^	M
11.	*Polygonatum pubescens*	Hairy Solomon's-seal	S5
12.	*Hypoxis hirsute*	Yellow Star Grass	S5
13.	*Iris pseudacorus*	Yellow Iris	S4

Order Commelinales – Spiderworts and Allies

14.	*Commelina communis*	Asiatic Dayflower*^	M

Order Dioscoreales – Yams, Colicroots, and Allies

15.	*Dioscorea villosa*	Wild Yam	S5

Order Liliales – Lilies, Supplejacks, and Allies

16.	*Lilium philadelphicum*	Wood Lily	S4
17.	*Trillium erectum*	Red Triullium	S5

18. *Veratrum viride*	Green False Hellebore	S5
19. *Smilax glauca*	Sawbrier	S5
20. *Smilax rotundifolia*	Roundleaf Greenbrier	S5
Order Poales – Grasses, Sedges, Cattails, and Allies		
21. *Microstegium vimineum*	Japanese Stiltgrass*^	T4
Class Magnoliopsida – Dicots		
Family Araliaceae – Ivy		
22. *Aralia nudicaulis*	Wild Sarsaparilla	S5
23. *Hydrocotyle Americana*	American Water-pennywort	S5
Family Aquifoliaceae – Holly		
24. *Ilex opaca*	American Holly	S4
Family Asteraceae – Sunflowers, Daisies, Asters, and Allies		
25. *Cichorium intybus*	Chicory*	
26. *Cirsium vulgare*	Bull Thistle*^	T4
27. *Erigeron philadelphicus*	Philadelphia fleabane	SNR
28. *Eurybia divaricata*	White Wood Aster	S5
29. *Eutrochium maculatum*	Spotted Joe-Pye Weed	SNR
30. *Hieracium paniculatum*	Panicled Hawkweed	S5
31. *Hieracium venosum*	Rattlesnakeweed	S5
32. *Krigia biflora*	Two-flower Dwarf-dandelion	S4
33. *Lapsana communis*	Nipplewort*	
34. *Solidago caesia*	Bluestem Goldenrod	S5
35. *Solidago flexicaulis*	Broad-leaved Goldenrod	S5
36. *Solidago juncea*	Early Goldenrod	S5
Family Campanulaceae – Bellflower		
37. *Lobelia piphilitica*	Great Blue Lobelia	S5
Family Brassicaceae – Mustard		
38. *Alliaria petiolate*	Garlic Mustard*^	T4
39. *Cardamine hirsute*	Hairy Bittercress*	
40. *Draba verna*	Common Whitlowgrass*	
41. *Hesperis matronalis*	Dame's Rocket*	
Family Caryophyllaceae – Pink		
42. *Silene stellata*	Starry Campion	S5
Family Phytolaccaceae – Pokeweed		
43. *Phytolacca americana*	American Pokeweed	SNR
Family Polygonaceae – Knotweed		
44. *Persicaria arifolia*	Halberd-leaved Tearthumb	S5
45. *Persicaria sagittata*	Arrow-leaved Tearthumb	S5
46. *Persicaria virginiana*	American Jumpseed	S5
Family Celastraceae – Staff-vine		
47. *Celatrus orbiculatus*	Oriental Bittersweet*^	T4
48. *Euonymus alatus*	Winged Euonymus*^	T4
Family Cornaceae – Dogwood		
49. *Cornus florida*	Flowering Dogwood	S4
Family Nussaceae – Tupelo		
50. *Nyssa sylvatica*	Black Tupelo	S5
Family Nyssaceae – Bladdernut		

51. Staphylea trifolia	American Bladdernut	S5	
Family Caprifoliaceae – Honeysuckle			
52. Lonicera japonica	Japanese Honeysuckle*^	T4	
Family Viburnaceae – Elder			
53. Sambucus canadensis	Black Elderberry	SNR	
54. Viburnum acerifolium	Mapleleaf Viburnum	S5	
55. Viburnum dentatum	Southern Arrowwood	SNR	
56. Viburnum dilatatum	Linden Viburnum*^	T3	
57. Viburnum lentago	Nannyberry	S5	
Family Balsaminaceae – Balsam			
58. Impatiens capensis	Common Jewelweed	S5	
Family Clethraceae – Clethra			
59. Clethra alnifolia	Sweet Pepperbush	S5	
Family Ericaceae – Heath			
60. Chimaphila maculata	Striped Wintergreen	S4	
61. Kalmia latifolia	Mountain Laurel	S5	
62. Monotropa hypopitys	Pinesap	S4	
63. Monotropa uniflora	Ghost Pipe	S5	
64. Pyrola americana	American Wintergreen	S5	
Family Primulaceae – Primroses			
65. Lysimachia nummularia	Creeping Jenny*^	M	
66. Lysimachia quadrifolia	Whorled Loosestrife	S5	
Family Fabaceae – Legumes			
67. Amphicarpaea bracteata	American Hog-peanut	S5	
68. Apios americana	*American Groundnut*	*S5*	
69. Desmodium paniculatum	*Panicled ticktrefoil*	*S5*	
70. Desmodium rotundifolium	Round-leaved Trailing Tick-trefoil		S4
71. Hylodesmum glutinosum	Pointed-leaved Tick-trefoil	S4	
72. Hylodesmum nudiflorum	Naked-flowered tick-trefoil	S5	
73. Securigera varia	Purple Crownvetch*^	M	
74. *Trifolium pratense*	Red Clover*		
75. Trifolium repens	White Clover*		
Family Betulaceae – Birch			
76. Betula lenta	Sweet Birch	S5	
77. Betula nigra	River Birch	S4	
78. Carpinus caroliniana	American Hornbeam	S5	
Family Juglandaceae – Walnut			
79. Carya ovata	Shagbark Hickory	S5	
Family Rubiaceae – Madder			
80. Cephalanthus occidentalis	Buttonbush	S5	
81. Galium asprellum	Rough Bedstraw	S5	
82. Galium triflorum	Fragrant Bedstraw	S5	
Family Geraniaceae – Geranium			
83. Geranium maculatum	Wild Geranium	S5	
Family Lamiaceae – Mint			
84. Ajuga reptans	Carpet Bugle*		
85. Glechoma hederacea	Ground-ivy*^	T4	
86. Lamium amplexicaule	Henbit Deadnettle*		

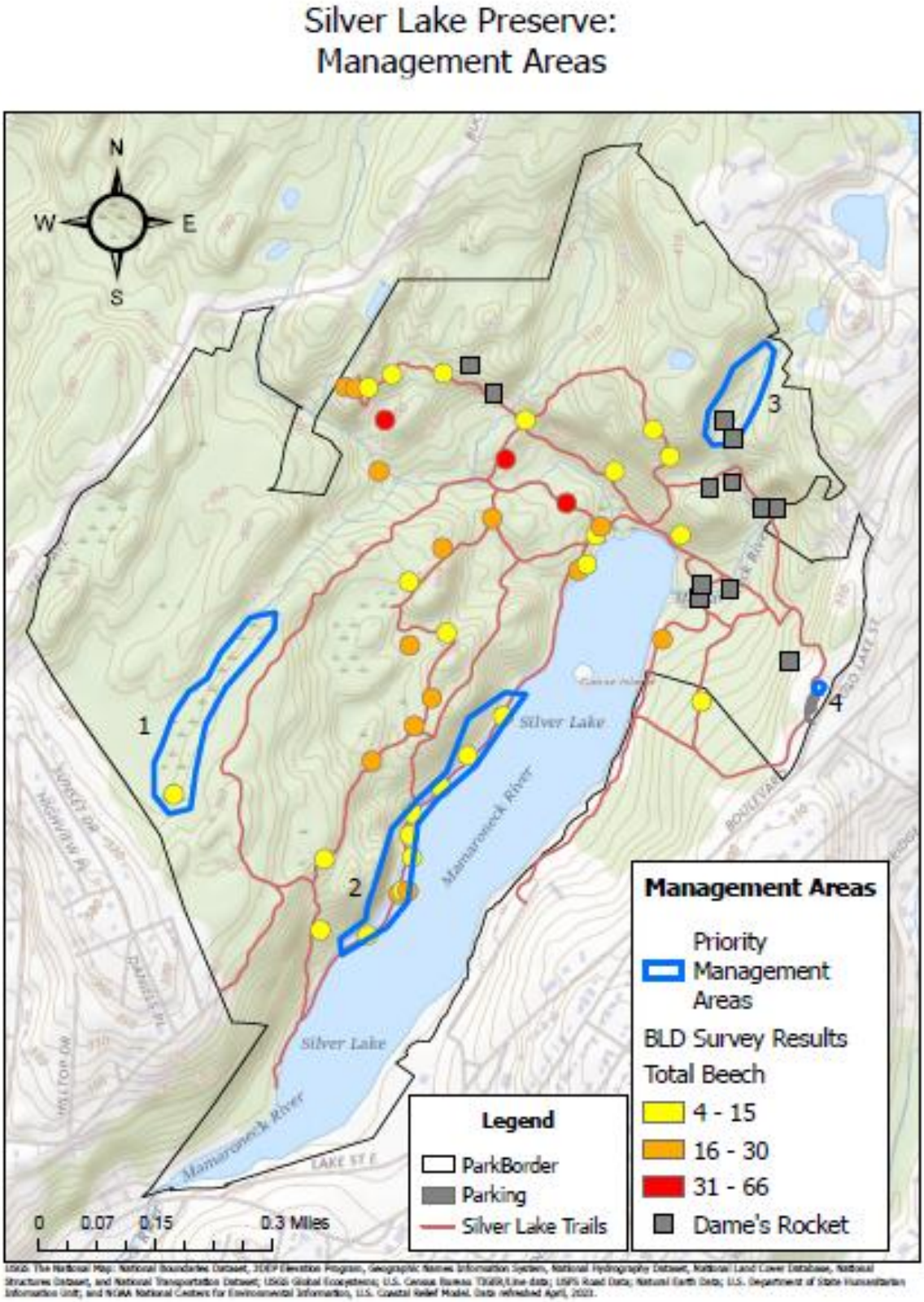
87. Prunella vulgaris	Common Selfheal	SNR
Family Oleaceae – Olive		
88. Fraxinus nigra	Black Ash	S5
89. Ligustrum obtusifolium	Border Privet*^	T4
Family Orobanchaceae – Broomrape		
90. Aphyllon uniflorum	One-flowered Cancer-root	S4
91. Aureolaria flava	Smooth Yellow False Foxglove	SNR
92. Epifagus virginiana	Beechdrops	S5
93. Pedicularis canadensis	Canadian Lousewort	SNR
Family Paulowniaceae – Foxglove Tree		
94. Paulownia tomentosa	Princess Tree*^	T3
Family Phrymaceae – Lopseed		
95. Mimulus ringens	Allegheny Monkeyflower	S5
Family Lauraceae – Laurels		
96. Lindera benzoin	Northern Spicebush	S5
97. Sassafrass albidum	Sassafrass	S5
Family Magnoliaceae – Magnolia		
98. Liriodendron tulipifera	Tulip Tree	S5
Family Malvaceae – Mallow and Hibiscus		
99. Tilia americana	Basswood	S5
Family Lythraceae – Lythrum		
100. Lythrum salicaria	Purple Loosestrife*^	T4
Family Berberidaceae – Barberry		
101. Berberis thunbergii	Japanese Barberry*^	T4
102. Caulophyllum thalictroides	Blue Cohosh	S5
Family Menispermacaea – Moonseed		
103. Menispermum canadense	Moonseed	S5
Family Papaveraceae – Poppy		
104. Chelidonium majus	Greater Celandine*	
105. Sanguinaria canadensis	Bloodroot	S4
Family Ranunculaceae – Buttercup		
106. Actaea pachypoda	White Baneberry	S5
107. Clematis terniflora	Autumn Clematis*^	T3
108. Thalictrum pubescens	Tall Meadow-rue	S5
109. Thalictrum thalictroides	Rue Anemone	S5
Family Moraceae – Mulberry and Fig		
110. Morus alba	White Mulberry*^	T4
Family Rosaceae – Rose		
111. Geum canadense	White Avens	S5
112. Potentilla indica	Mock Strawberry*	
113. Prunus serotine	Black Cherry	S5
114. Rosa multiflora	Multiflora Rose*^	T4
115. Rubus phoenicolasius	Wineberry*^	T4
Family Urticaceae – Nettle		
116. Pilea pumila	Canada Clearweed	S5
Family Anacardiaceae – Cashew		
117. Toxicodendron radicans	Eastern Poison Ivy	S5
118. Toxicodendron vernix	Poison Sumac	S4

Family Sapindaceae – Soapberry		
119. Acer platanoides	Norway Maple*^	T4
120. Acer rubrum	Red Maple	S5
121. Acer saccharum	Sugar Maple	S5
Family Simaroubaceae – Quassia		
122. Ailanthus altissima	Tree-of-heaven*^	T4
Family Hamamelidaceae – Witch-hazel		
123. Hamamelis virginiana	Common Witch-hazel	S5
Family Solanaceae – Nightshade		
124. Solanum dulcamara	Bittersweet Nightshade*	M
Family Vitaceae – Grape		
125. Ampelopsis glandulosa	Porcelain Berry*^	T4
126. Vitis aestivalis	Summer Grape	S5
Class Polypodiopsida – Ferns		
Order Osmundales		
127. Osmunda spectabilis	American Royal Fern	SNR
128. Osmundastrum cinnamomeum	Cinnamon Fern	S5
Order Polypodiales		
129. Polystichum acrostichoides	Christmas Fern	S5
130. Onoclea sensibilis	Sensitive Fern	S5
131. Adiantum pedatum	Northern Maidenhair Fern	S4
132. Amauropelta noveboracensis	New York Fern	S5
133. Thelypteris palustris	Marsh Fern	S5

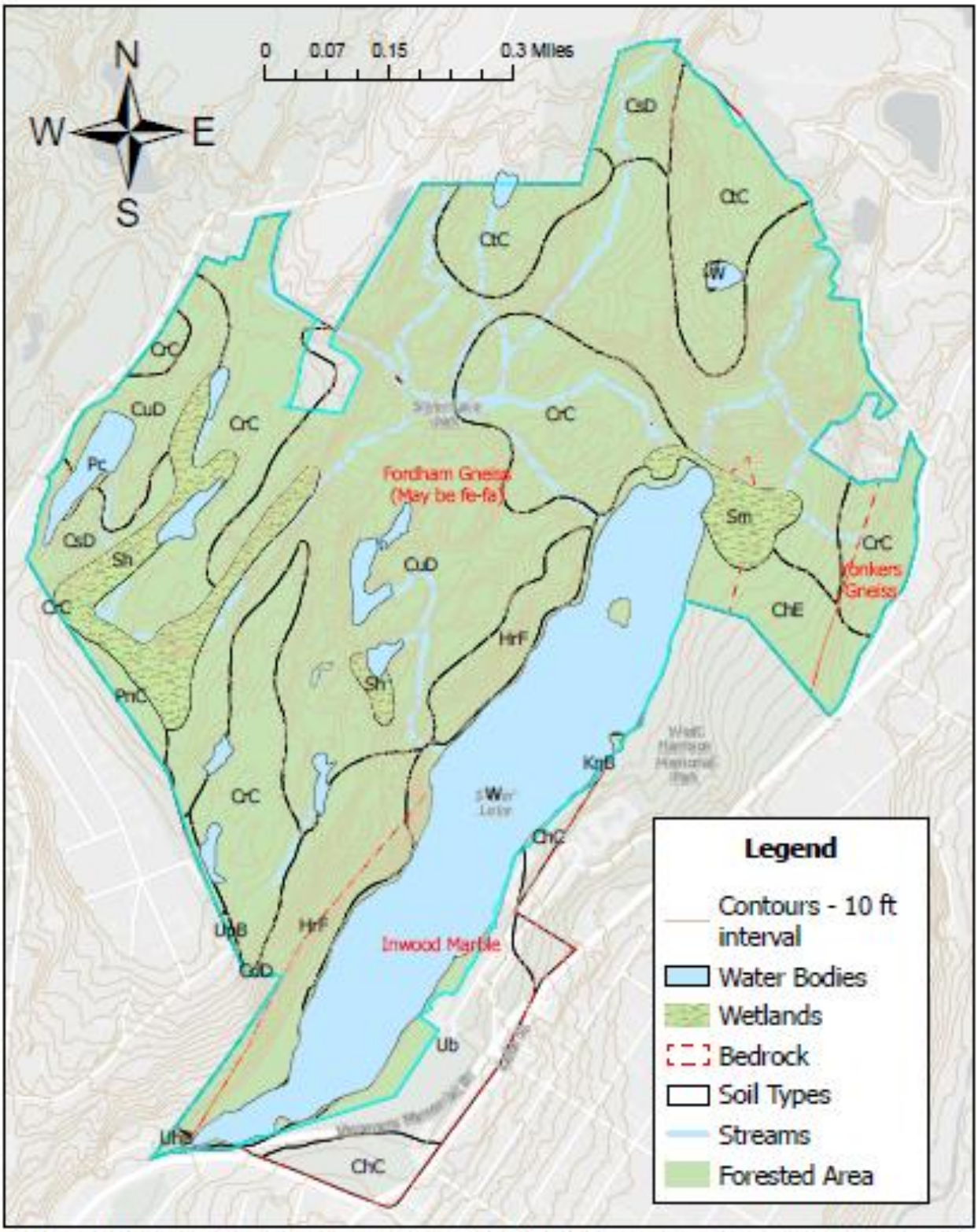
Priority Management Recommendations (follow map with locations marked 1-5):

1. Manage all invasive plant species in the large wetland (marked management unit 1 on map). This wetland supports a large diversity of notable native species included *Lobelia siphilitica* and *Dioscorea villosa*. It is currently only minimally invaded. However, small populations of invasive plants, most notably *Rosa multiflora*, are beginning to colonize the wetland. Keeping invasive plants from degrading the wetland is a high management priority.
2. Trees should be planted along the lake's edge where there is a high density of beech trees (marked management unit 2 on lake's edge). Maintaining a forested edge around the lake will have a multitude of benefits on water quality and shoreline stability.
3. Invasive plants should be managed in a dense patch of blue cohosh and other native species (management unit 3 on the map). This area currently supports cohoshes, baneberries, jack-in-the-pulpit, hairy sweet cicely, avens species, and more. Due to the dense growth and diversity of native plants in this area, invasive species should not be allowed to encroach.
4. Yellow archangel (*Lamium galeobdolon*) should be closely monitored with the goal of complete eradication. It is currently only present in a small area adjacent to the parking lot (management unit 4 on the map).
5. Dame's rocket (*Hesperis matronalis*) should be managed with the goal of eradication. Currently, small populations of the plant have been found around the north and eastern areas of the park. However, its population has not grown so large that management would be inefficient. Furthermore, there are minimal observations of Dame's rocket from other County Parks and the plant is not yet ranked by Lower Hudson PRISM. Therefore, eliminating it at this stage is a high priority.

Maps:


Silver Lake Preserve:
Management Areas
N
W
E
S
1
2
3
4
Silver Lake
Mamaroneck River
Silver Lake
Mamaroneck River
Management Areas
Priority Management Areas
BLD Survey Results
Total Beech
4 - 15
16 - 30
31 - 66
Dame's Rocket
Legend
ParkBorder
Parking
Silver Lake Trails
0
0.07
0.15
0.3 Miles

Silver Lake Preserve:
Physical Landscape Features



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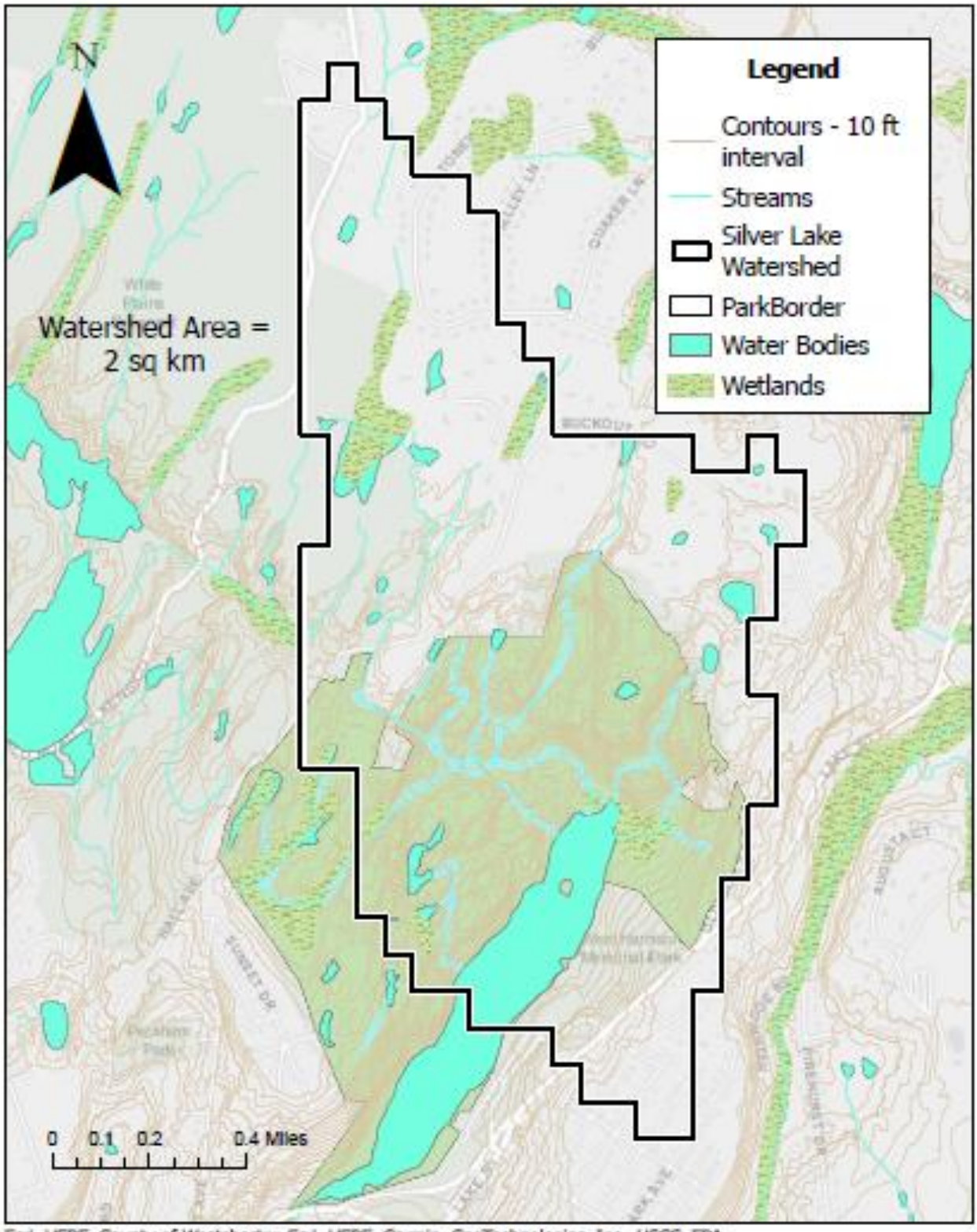
Silver Lake Preserve:
Watershed



Esri, HERE, County of Westchester, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA

Silver Lake Preserve:
Forest Inventory Plots