Appendix 20. Skyview and Garfi Preserves

Acreage: 76.41 (Skyview 72.2 acres, Garfi 4.21 acres)

Block and Lot: Multiple. B23, L11 (Skyview); B23, L27 (Gomez)

Ownership: Skyview - FoHVOS (28%) and NJDEP (72%); Garfi - FoHVOS (100%)

Year(s) Purchased: Skyview - 2001; Garfi - 2008

<u>Location & Access</u>: Skyview Preserve has multiple access points. Trailhead parking is located at the southeast corner of Marshall's Corner-Woodsville Road and Skyview Drive. Additional parking is available along Skyview Drive (across from homes). <u>Nearest street address</u>: 2 Skyview Drive, Hopewell, NJ 08525. <u>Additional access points</u>: A) Along the southern side of Lambertville-Hopewell Road/Route 518. <u>Nearest street address</u>: 219 Lambertville-Hopewell Road/Route 518, Hopewell. B) Along Route 31, just south of Hopewell Valley Community Bank. <u>Nearest street address</u>: 4 Rte. 31, Hopewell. C) Garfi Preserve is located on the east side of Marshall's Corner-Woodsville Road. Parking access along road shoulder. <u>Nearest street address</u>: 85 Marshall's Corner-Woodsville Road, Hopewell.

Structures: None.

Additional property information is summarized in Appendix W. The following Preserve maps are provided at the end of this document:

- Map 1 2007 Aerial Photography
- Map 2 1930 Aerial Photography
- Map 3 Topography
- Map 4 Bedrock Geology
- Map 5 Soils
- Map 6 Land Cover Types (2007)
- Map 7 Protected Lands
- Map 8 Deer Management
- Map 9 Invasive Plant Cover (Relative Infestation Severity for all species)

Website Description:

Skyview and Garfi Preserves protect a series of meadows, woodlands, hedgerows, and a portion of Woodsville Brook near Route 31. A hiking trail meanders through these habitats. The Garfi Preserve is owned entirely by FoHVOS, while the Skyview Preserve is co-owned with the New Jersey Department of Environmental Protection.

BROAD PROPERTY DESCRIPTION

The Skyview and Garfi Preserves are (Map 1) located at the north-central section of the township. The topography (Map 3) is primarily flat at 90 to 70 feet above sea level.

Based upon analysis of NJDEP's 2007 Land Use/Land Cover dataset, the preserve contains seven broad plant communities: Coniferous Forest (> 50% canopy) - Upland, Deciduous Forest (> 50% canopy) - Upland, Coniferous Woodland (10-50% canopy) - Upland, Shrubland (< 10% canopy, > 25% shrub cover) - Upland, Deciduous Forest (> 50% canopy) - Wetland, Agricultural Lands and Urban Lands. Land Use/Land Cover is summarized in Appendix X and illustrated in Map 6.

Agriculture was the predominant past land use and the nearest 1930s forest tract is 0.14 miles to the southwest.

The southernmost forested portions of the preserve contain primarily a mix of early and late successional tree species including red cedar, pin oak, and shagbark hickory. The understory layer is a mix of winged euonymus, multiflora rose, blackhaw, and autumn olive. Seedlings of Japanese maple and several thickets of jetbead have been found, and treatment initiated. A small patch of woodland wildflowers hints at a remnant patch of older forest; species include halberd-leaved violet (*Viola hastata*), bloodroot, and Pennsylvania sedge.

Between the southern and northern meadows, lies a fragment of red cedar with evidence of owls (significant accumulation of pellets under one tree). Soils saturated and standing water is frequent within the copse of cedars.

The remaining forest patches in the northern part of the preserve are highly disturbed by past land use and flooding of the Brook. Species there include red maple, Japanese stiltgrass, multiflora rose, and minimal skunk cabbage. Narrow leaved bittercress is frequent on the floodplain. A portion of Wooodsville Brook (0.2 miles) runs through this forest.

The forest of the Garfi preserve is lowland, and severely invaded by multiflora rose. It is nearly impenetrable on foot.

Each meadows harbors different plant communities. The northern meadow along Route 518 is highly diverse with *Lobelia spicata*, rushes, sedges, New England aster, little white aster, *Sabatia sp.*, *Rubus sp.*, broomsedge, reed canary grass, and *Miscanthus*. Meadow edge species include gray dogwood, winterberry, and blackhaw. The meadow and edges contain woody invasives including crabapple sp., multiflora rose, and autumn olive. The soils become increasingly moist from east to west.

The northern meadow is comprised of sedges, grasses, golden ragwort, goldenrod sp., common milkweed, *Galium sp.*, and dogbane, as well as woody invasives. Hedgerows between the northern meadows harbor the most tree diversity with bitternut hickory, blackhaw, and tupelo.

All meadows contain woody invasives including crabapple sp., multiflora rose, and autumn olive. The southern meadow is the most highly invaded. Autumn olive and mugwort are especially prevalent. Several individuals of *Miscanthus* were found and treated.

The preserve has one type of bedrock geology--the Lockatong formation. See Map 4.

The preserve has eight soil types (see Map 5) with Quakertown silt loam, 2 to 6 percent slopes; Chalfont silt loam, 2 to 6 percent; and Penn channery silt loam, 2 to 6 percent slopes, being the three most common types. The preserve's soils are described in Appendix Y.

CONSERVATION VALUES

Based on Natural Heritage data, ENSP data, Landscape Project, 1930s forest presence/absence et al. the Preserve has a weighted Ecological Value at 50-75%. See Appendix A for a description of ranking factors.

<u>Forest and Woodland Communities:</u> The forest patch found on the Preserve and surrounding area is an important stop-over habitat (spring and fall resting and feeding) for migratory species. The fragmented

nature of the forest and the lack of a woodland shrub layer reduces the chance of nesting and successful breeding.

Owl pellets were observed in the red cedar stand.

Old forest: None. See Map 2.

Early Successional Communities:

Shrublands: The shrubland is composed of invasive species.

Meadows/Grasslands: Meadows vary in abundance and richness of native species. Fields 50 and 52 have high diversity of native herbaceous cover. Field 53 has low diversity and significant invasive and woody cover, but has ragged fringed orchid. Field 54 is mowed as lawn by a neighbor. Field 52 is lower in diversity and is also part of the RHWHP Stony Brook buffer.

<u>Waterbodies:</u> A portion of Woodsville Brook runs through the northwest part of the preserve. Portions of the preserve fall into the RHWHP Stony Brook buffer.

A possible vernal pool is the strip of forest along Route 518.

Rare Species:

Rare Plants: None documented on the Preserve. Natural Heritage shows no species.

Rare Animals: The Landscape Project lists habitat for State Special Concern species.

See Appendix L for a list of species.

THREATS

<u>Deer:</u> White-tailed deer have suppressed much of the native community. Regeneration of the understory is nearly non-existent. Forest health monitoring was performed in 2008/2009 (See main plan table 9).

<u>Invasive species</u>: In 2008 staff began walk-through surveys for emerging invasive species on all preserves. Mapping documented each species and its population size. Chinese silvergrass, Callery pear, jetbead, Japanese maple, Siebold's viburnum (eradicated), and Chinese wisteria (on private land adjacent to preserve) were detected. See www.njisst.org for the current status of emerging invasive species at the Preserve.

In 2011 staff completed surveys for invasive plant species on all preserves (see Map 9). Mapping documented each species found and its population size (See Table 1 below). The five species with the highest infestation scores include: Multiflora Rose, Autumn Olive, Non-native cool season grass, Japanese Honeysuckle, and Japanese Stiltgrass.

Other: N/A

STRATEGIES and ACTIONS:

Forest and Woodland Habitat Stewardship:

All ED/RR species will be treated. No action is recommended for widespread invasive species, except winged euonymus (See Table 1 below). The mature individuals of afore mentioned species should be treated with basal bark applications as detected. Reduced deer density will allow the native plant communities to recover and compete with the widespread invasive species.

Early Successional Habitat Stewardship: A biannual winter mowing or burning regime is recommended in all meadows except Field 52. This field has a high number of ash seedlings and is part of the Stony Brook buffer; it will be allowed to succeed to forest.

The variety native species in the northernmost meadow and its hedgerows is notable. *Sabatia sp.* may respond well to a burning regime; intensive restoration activities are not recommended for this meadow. Reed canary grass, mugwort, and Canada thistle should be spot treated with foliar spray (See Table 1 below). Woody invasive species will be removed through meadow maintenance.

For habitat goals and maintenance schedule see Appendix T & U.

Deer Management: The preserve is enrolled in the DMP with bow and gun hunting. See Map 8 for delineations of the 150' and 450' safety zones and hunting status.

Rare Species Management: All native plant communities should be maintained to provide habitat.

Neighboring Lands: See Map 7 for adjacent protected lands.

Waterbodies Management: The tributary of the Woodsville Brook is too short to merit restoration efforts.

Undesirable Activities Management: N/A

Scientific Research Assessment: The Preserve is available for scientific research.

Recreational Opportunities Assessment: This property currently has a 1.4 mile loop trail and parking. Currently, there are no opportunities to connect to a regional trail system—none yet exist

Table 1. Invasive Plants – Species Abundance and Treatment Recommendations

							Acreage by Percent Ground Cover Categories						
				Percent									
			Total	of Preserve		LOE							
		Infestation	Acres	Area	Treatment	Estim ate	Category 0:	Category:	Category 1:	Category 2:	Category 3:	Category 4:	Category 5:
Scientific Name	Common Name	Index Score ¹	Present	Present	Recommendation	(Hours)	0%	Trace	1-10%	10-25%	25-50%	50-75%	75-100%
A	January Maria	0.0	1.2	4.0	Eradicate	Strategy	75.22	1.2	0.0	0.0	0.0	0.0	0.0
Acer palmatum Acer platanoides	Japanese Maple Norway Maple	0.0	0.0	1.6 0.0	N/A	2A	76.44	0.0	0.0	0.00	0.0	0.00	0.0
Acer platariolides Ailanthus altissima	Tree-of-Heaven	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.00	0.0	0.00	0.0
Alliaria petiolata	Garlic Mustard	15.8	15.6	20.3	None		60.89	4.2	9.0	0.0	0.0	0.0	0.0
Alliana peliolala	Gariic Mustaru	13.6	13.0	20.3	Control - Field	Strategy							
Artemisia vulgaris	Common Mugw ort	39.3	21.2	27.8	Maintenance	3B	55.20	0.3	14.9	0.0	0.0	6.1	0.0
Arthraxon hispidus	Small Carpgrass	13.8	13.8	18.1	None		62.64	0.0	13.8	0.0	0.0	0.0	0.0
Berberis thunbergii	Japanese Barberry	0.0	1.5	2.0	None		74.90	1.5	0.0	0.0	0.0	0.0	0.0
Cardamine impatiens	Narrow-leaved Bittercress	14.4	13.5	17.7	None		62.94	4.6	3.5	5.4	0.0	0.0	0.0
Catalpa bignonioides	Northern Catalpa	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
	Asiatic Bittersweet	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.00	0.0	0.0
Centurea sp.	Knapw eed sp.	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
·	Canada Thistle	13.3	19.4	25.3	Control - Field Maintenance	Strategy 3B	57.07	6.1	13.3	0.0	0.0	0.0	0.0
Dipsacus sylvestris	Teasel	0.0	0.0	0.0	N/A		76.44	0.0	0.00	0.0	0.0	0.0	0.0
					Control - Field	Strategy							
Eleaegnus umbellata	Autumn Olive	151.0	65.5	85.7	Maintenance Control - Treat	3B	10.91	5.2	17.4	10.1	22.1	6.8	4.0
Euonymus alata	Winged Burning Bush	6.6	6.7	8.7	Fruiting Plants	20	69.78	1.7	3.5	1.5	0.0	0.0	0.00
Iris pseudoacris	Yellow Iris	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
	Chinese Bushclover	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
	Border Privet	2.5	2.5	3.3	None		73.92	0.0	2.52	0.0	0.0	0.0	0.0
Lonicera japonica	Japanese Honeysuckle	63.2	37.5	49.1	None		38.90	6.5	10.5	13.3	4.9	0.7	1.7
Lonicera maackii	Amur Honeysuckle	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Lonicera morrowii	Morrow's Honeysuckle	13.4	19.6	25.6	None		56.86	7.0	11.8	0.8	0.00	0.0	0.0
Lysimachia nummularia	Moneyw ort	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Lythrum salicaria	Purple Loosestrife	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Malus toringo	Toringo Crabapple	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Microstegium vimineum	Japanese Stiltgrass	60.9	26.6	34.9	None		49.80	1.4	6.5	9.2	5.4	0.8	3.3
N/A	Non-native, cool season grass	115.6	36.9	48.3	None		39.53	0.0	7.1	0.0	14.2	12.3	3.4
Phalaris arundinacea	Reed Canary Grass	23.4	14.2	18.6	Control - Field Maintenance	Strategy 3B	62.23	0.0	6.2	7.1	0.8	0.0	0.2
Phragmites australis	Common Reed	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Polygonum cuspidatum	Japanese Knotw eed	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
,,	Mile-a-Minute	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Pyrus calleryana	Callery Pear	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Ranunculus ficaria	Lesser Celandine	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Robinia pseudoacacia	Black Locust	0.6	0.3	0.4	Control - Field Maintenance	Strategy 3B	76.16	0.0	0.0	0.3	0.0	0.0	0.0
		1			Control - Field	Strategy	4.70						
Rosa multiflora	Multifloral Rose	187.0	71.7	93.8	Maintenance Control - Field	3B Strategy	4.73	0.8	9.5	40.3	2.2	4.4	14.6
Rubus pheoniculasius	Wineberry	5.9	7.3	9.5	Maintenance	3B	69.18	2.1	4.4	0.8	0.0	0.0	0.0
Securigera varia	Crown vetch	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Viburnum dilatatum	Linden Viburnum	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
	Siebold's Viburnum	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
Wisteria floribunda	Japanese Wisteria	0.0	0.0	0.0	N/A		76.44	0.0	0.0	0.0	0.0	0.0	0.0
					Total LOE	20							

¹The Infestation Index Score combines the extent of acreage infested and the intensity of the infestation. It was derived by multiplying the cover class number by the number of acres within each cover class

















