Hopewell Valley Community Stewardship Plan
Friends of Hopewell Valley Open Space

Appendix 23.
Thompson Preserve

Acreage: 57.0

Block and Lot: B34, L5

Ownership: FoHVOS (100%)

Year(s) Purchased: 2002

Location & Access: Preserve is located on the north side of Route 654, 0.6 miles east of the intersection of Route 31. A formal gravel parking lot is installed at the preserve entrance. Nearest street address: 93 Pennington-Hopewell Road, Hopewell, NJ 08525.

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:
Thompson Preserve represents a blend of habitats and land use—forest, meadow, and farmland. In 2010 seven acres of abandoned farmland were converted to native forbs and grasses. The remaining field acreage is leased to a local organic farmer. Native pollinator strips were planted along the active farm fields to provide habitat for native bees & butterflies. A corridor of forest shelters the Stony Brook and a tributary. A loop trail leads the visitor through all habitats.

BROAD PROPERTY DESCRIPTION
The Thompson Preserve (see Map 1) is located in north central Hopewell Township. The preserve is bounded by residential development, forest, and farmland. The topography (see Map 3) primarily flat at 60 feet above sea level.

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

The forest on the preserve is in various stages of regeneration. In the central portion of the preserve, as well as in the wetlands, invasive species are the majority of the understory. Multifloral rose and Japanese stiltgrass are prevalent. Native species were not recorded.

Along the east side of Stony Brook, the forest is mature, but is disturbed by frequent flood events. The understory is largely comprised of multiflora rose and trace spicebush. Small populations of native herbaceous species - wild ginger, rue anemone, and Virginia waterleaf – were detected.

The preserve has two types of bedrock geology--the Passaic and Passaic Gray Bed formations. See Map 4.

The preserve has six soil types (see Map 5) with Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded; Bucks silt loam, 0 to 2 percent slopes; and Bucks 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 an analysis involving the ranking of ecological values and threats (See Community Stewardship Plan text), the Preserve has a weighted Ecological Value at 50-75%. See Appendix A for a description of ranking factors.

Forest and Woodland Communities: The forest patch found on the Preserve and surrounding area has been identified as wood turtle habitat and is an important stop-over habitat (spring and fall resting and feeding) for migratory species.

Old forest: None. See Map 2.

Early Successional Communities:
Shrublands: N/A

Meadows/Grasslands: Fields 58 & 59 were restored through clearing of dense multifloral rose and re-seeding with native grasses and wildflowers in 2010. Emphasis was placed on planting forbs with diverse phenology to benefit wildlife and create pollinator habitat.

Fields 55, 56 and 57 (17 acres) are leased to an organic farmer. The pollinator strips along the northern and western edges were planted in 2010. However, the previous farmer tilled and replanted >50% of the strips into cover crops without permission.

Waterbodies: The Stony Brook and one of its tributaries intersect on the preserve. A large portion of the Preserve falls within a RHWHP Priority Riparian Area (Stony Brook).

Rare Species:
Rare Plants: None documented on the Preserve. Natural Heritage report shows winged monkeyflower (*Mimulus alatus*) in the area.

Rare Animals: Forested areas of the Preserve are identified as habitat for State Endangered, Threatened, and Special Concern species, as well as wood turtle habitat. Wood thrush has been observed during nesting season.

See Appendix L for a list of species.

THREATS

Deer: The understory is severely browsed. Regeneration of the shrub and canopy layer are currently non-existent. Forest health monitoring was performed in 2006/2007 (See main plan, Table 9).

Invasive species: In 2008 staff began walk-through surveys for emerging invasive species on all preserves. Mapping documented each species and its population size. Oriental photinia was 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 four species with the highest infestation scores include: Multifloral Rose, Japanese Honeysuckle, Japanese Stiltgrass, Autumn Olive, and Toringo Crabapple.

Other: The preserve has a history of ATV usage. Neighbors were contacted about ATV use and issues have ceased.

Because of the truncation of the floodplain at the railroad line, severe flooding and back up of flood waters is exacerbated. Erosion along the banks of the Stony Brook is severe, reaching 12' high in places. Restoration activities would require very significant grant funding.

STRATEGIES and ACTIONS

Forest and Woodland Habitat Stewardship: Annual surveys for and eradication of emerging invasive species are a high priority at this Preserve. Oriental photinia will be eradicated.

No action is recommended for widespread invasive species, except for winged burning bush and Asiatic bittersweet (see Table 1 below). Reduced deer density will allow the native plant communities to recover and compete with the widespread invasive species on a long-term basis.

Early Successional Habitat Stewardship: A biannual winter mowing or burning regime is recommended to maintain early successional habitat and remove invasive woody plants. The organic farmer is currently mowing the fields. Permission of neighbors is required to access Field 59.

Woody invasive species will be controlled through regular meadow maintenance. Knapweed and Canada thistle will be controlled by spot herbicide treatments (see Table 1 below). 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: Survey Stony Brook and its tributary for winged monkeyflower. Maintain DMP goals to protect forest health and encourage recovery of herbaceous and shrub layers for improved nesting and foraging habitat.

Neighboring Lands: See Deer Management. See Map 7 for adjacent protected lands.

Waterbodies Management: Seek grant funding for stream bank restoration/stabilization project.

Undesirable Activities Management: Maintain presence on preserve through hiking, regular trail maintenance, and maintaining secure access points.

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

Recreational Opportunities Assessment: This property currently has a 1.6 mile loop trail and parking. Currently, there are no opportunities to connect to a regional trail system—none yet exist.

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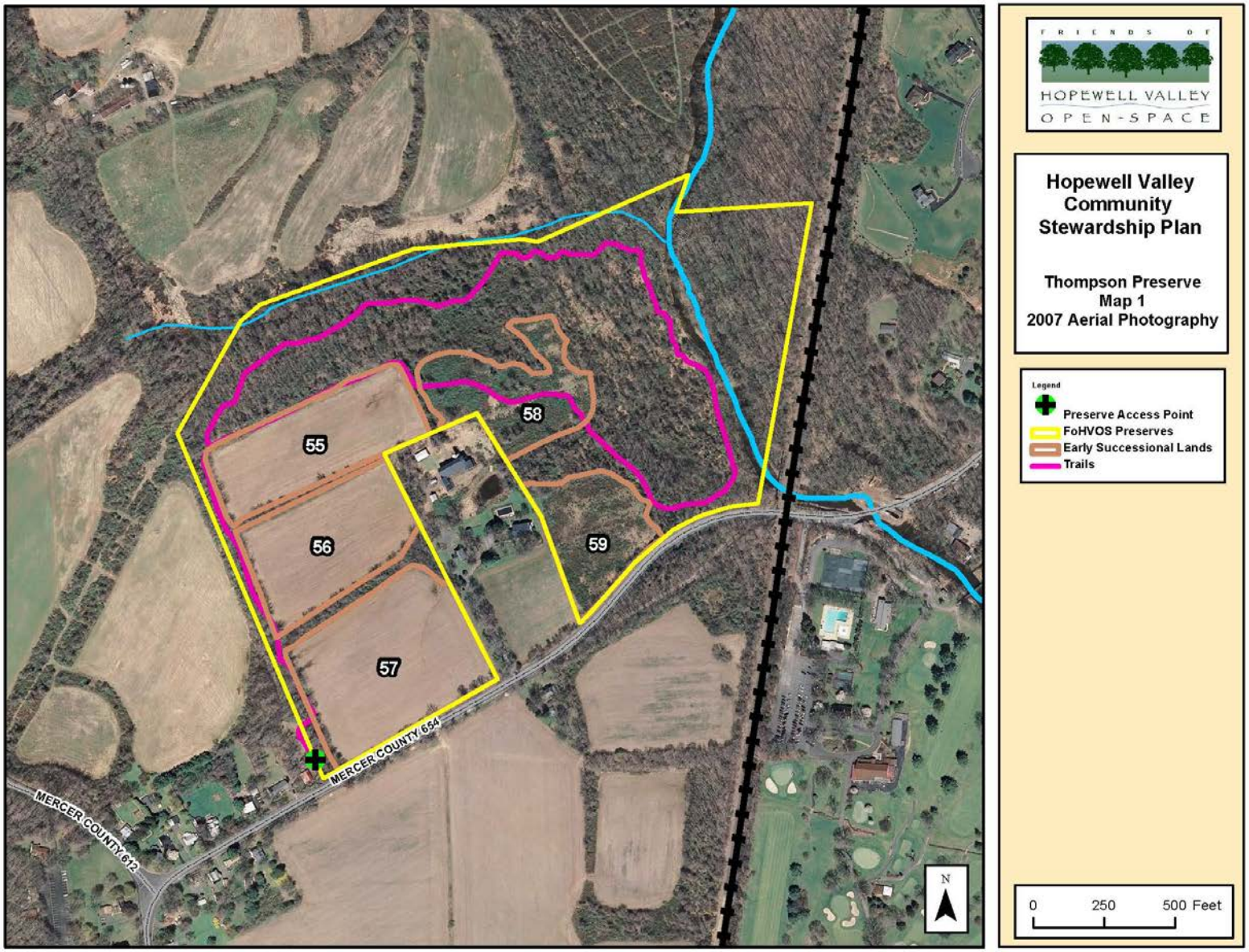
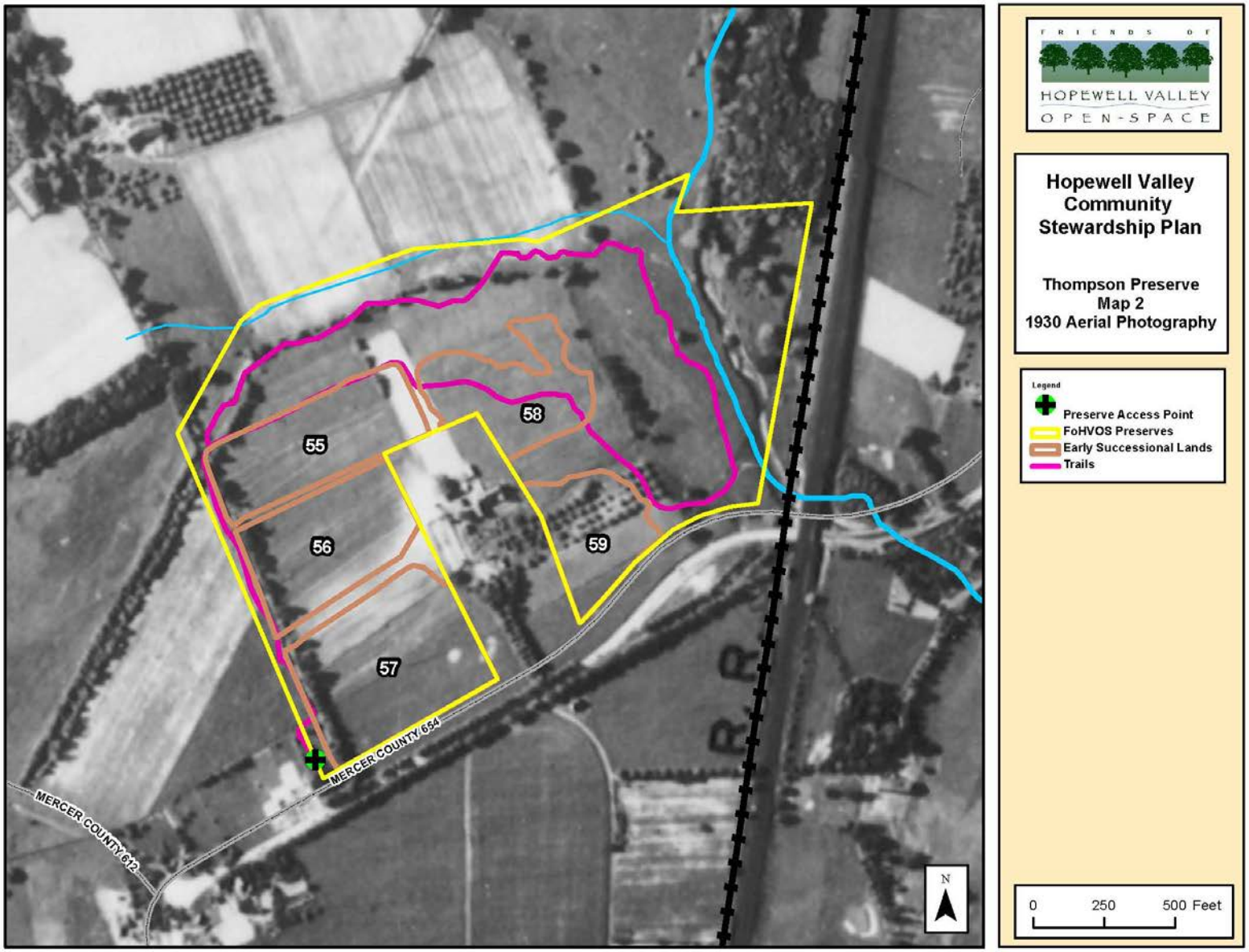
Table 1. Invasive Plants – Species Abundance and Treatment Recommendations

							Acreage by Percent Ground Cover Categories						
Scientific Name	**Common Name**	**Infestation Index Score[1]**	**Total Acres Present**	**Percent of Preserve Area Present**	**Treatment Recommendation**	**LOE Estimate (Hours)**	**Category 0: 0%**	**Category: Trace**	**Category 1: 1-10%**	**Category 2: 10-25%**	**Category 3: 25-50%**	**Category 4: 50-75%**	**Category 5: 75-100%**
Acer palmatum	Japanese Maple	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Acer platanoides	Norway Maple	0.2	0.2	0.3	None		56.79	0.0	0.2	0.00	0.0	0.00	0.0
Ailanthus altissima	Tree-of-Heaven	0.0	6.7	11.8	Control - Field Maintenance	Strategy 3B	50.24	6.7	0.0	0.0	0.0	0.0	0.0
Alliaria petiolata	Garlic Mustard	15.3	14.8	25.9	None		42.20	0.0	14.4	0.3	0.2	0.0	0.0
Artemisia vulgaris	Common Mugwort	3.3	3.0	5.2	Control - Field Maintenance	Strategy 3B	54.03	0.2	2.6	0.03	0.0	0.1	0.1
Arthraxon hispidus	Small Carpgrass	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Berberis thunbergii	Japanese Barberry	0.0	0.6	1.0	None		56.43	0.6	0.0	0.0	0.0	0.0	0.0
Cardamine impatiens	Narrow-leaved Bittercress	11.1	5.6	9.7	None		51.43	0.0	0.0	5.6	0.0	0.0	0.0
Catalpa bignonioides	Northern Catalpa	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Celastrus orbiculatus	Asiatic Bittersweet	2.6	2.6	4.6	Control - Treat Fruiting Plants	10	54.38	0.0	2.6	0.0	0.00	0.0	0.0
Centurea sp.	Knapweed sp.	3.6	2.7	4.7	Control - Field Maintenance	Strategy 3B	54.28	0.0	2.4	0.05	0.05	0.02	0.2
Cirsium arvense	Canada Thistle	8.9	9.5	16.7	Control - Field Maintenance	Strategy 3B	47.47	0.7	8.8	0.05	0.0	0.0	0.0
Dipsacus sylvestris	Teasel	0.0	3.7	6.5	Control - Field Maintenance	Strategy 3B	53.29	3.7	0.00	0.0	0.0	0.0	0.0
Eleaegnus umbellata	Autumn Olive	51.8	34.3	60.3	Control - Field Maintenance	Strategy 3B	22.64	9.3	14.5	3.6	0.2	4.4	2.4
Euonymus alata	Winged Burning Bush	0.0	0.6	1.0	Control - Treat Fruiting Plants	5	56.43	0.6	0.0	0.0	0.0	0.0	0.00
Iris pseudoacris	Yellow Iris	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Lespedeza cuneata	Chinese Bushclover	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Ligustrum obtusifolium	Border Privet	0.6	0.6	1.0	None		56.43	0.0	0.55	0.0	0.0	0.0	0.0
Lonicera japonica	Japanese Honeysuckle	107.9	38.2	67.1	None		18.74	0.0	8.1	3.4	14.7	11.5	0.6
Lonicera maackii	Amur Honeysuckle	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Lonicera morrowii	Morrow's Honeysuckle	3.3	9.6	16.8	None		47.38	6.3	3.3	0.0	0.00	0.0	0.0
Lysimachia nummularia	Moneywort	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Lythrum salicaria	Purple Loosestrife	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Malus toringo	Toringo Crabapple	15.4	13.1	23.0	Control - Field Maintenance	Strategy 3B	43.90	3.9	4.2	4.3	0.4	0.4	0.0
Microstegium vimineum	Japanese Stiltgrass	89.9	28.0	49.2	None		28.94	0.0	0.6	9.8	7.5	3.6	6.6
N/A	Non-native, cool season grass	0.2	3.8	6.7	None		53.19	3.7	0.03	0.0	0.0	0.0	0.03
Phalaris arundinacea	Reed Canary Grass	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Phragmites australis	Common Reed	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Polygonum cuspidatum	Japanese Knotweed	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Polygonum perfoliatum	Mile-a-Minute	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Pyrus calleryana	Callery Pear	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Ranunculus ficaria	Lesser Celandine	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Robinia pseudoacacia	Black Locust	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Rosa multiflora	Multifloral Rose	154.9	40.3	70.7	Control - Field Maintenance	Strategy 3B	16.70	3.7	2.9	1.5	1.2	9.8	21.3
Rubus pheoniculasius	Wineberry	7.1	17.4	30.5	Control - Field Maintenance	Strategy 3B	39.61	10.3	7.1	0.0	0.0	0.0	0.0
Securigera varia	Crown vetch	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Viburnum dilatatum	Linden Viburnum	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Viburnum sieboldii	Siebold's Viburnum	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
Wisteria floribunda	Japanese Wisteria	0.0	0.0	0.0	N/A		56.98	0.0	0.0	0.0	0.0	0.0	0.0
					Total LOE	**15**							

[1] **The 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.**


FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 1
2007 Aerial Photography
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
55
56
57
58
59
MERCER COUNTY 654
MERCER COUNTY 612
N
0
250
500 Feet


FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 2
1930 Aerial Photography
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
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MERCER COUNTY 654
MERCER COUNTY 612
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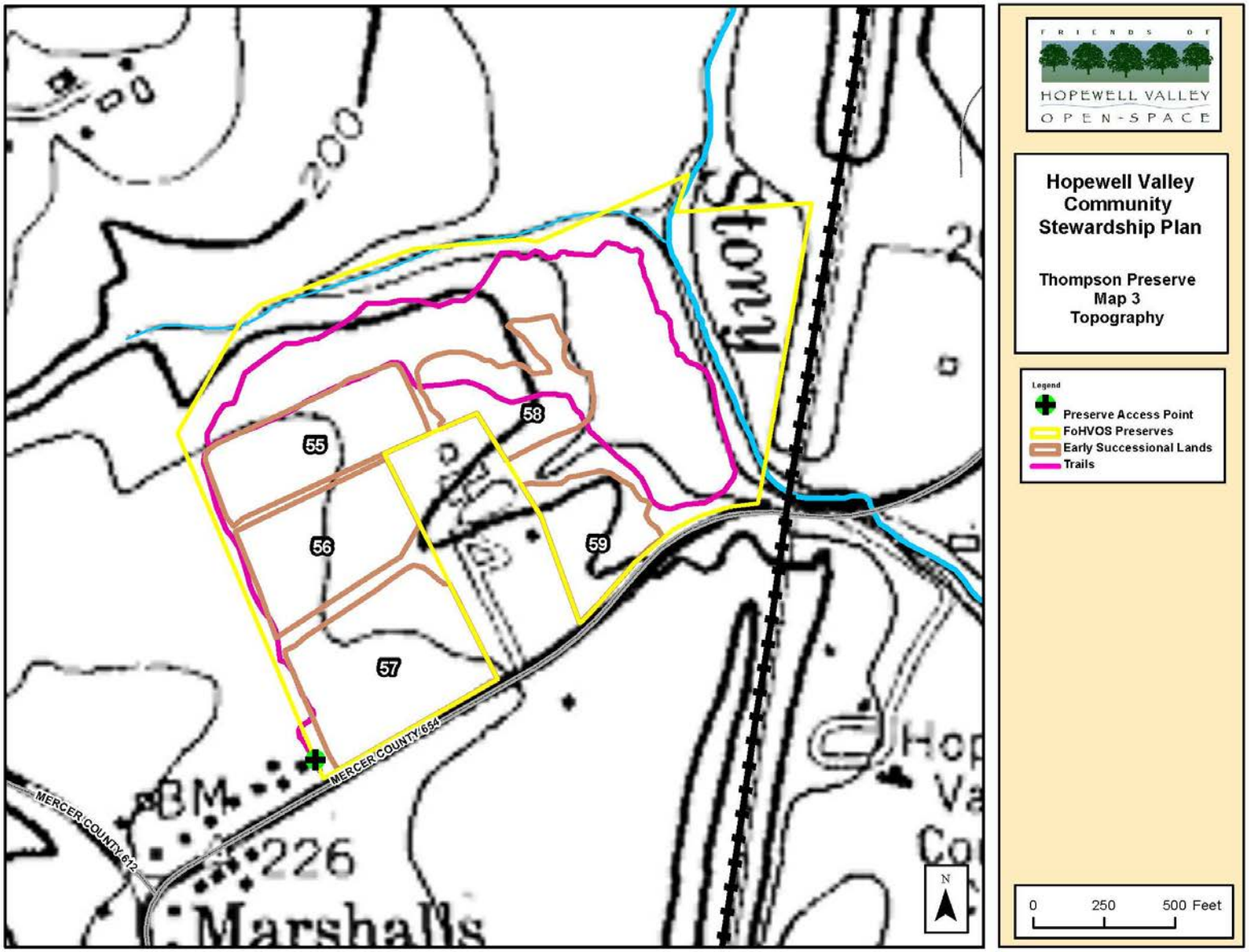
FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 3
Topography
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
0
250
500 Feet
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55
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MERCER COUNTY 654
MERCER COUNTY 672
BM
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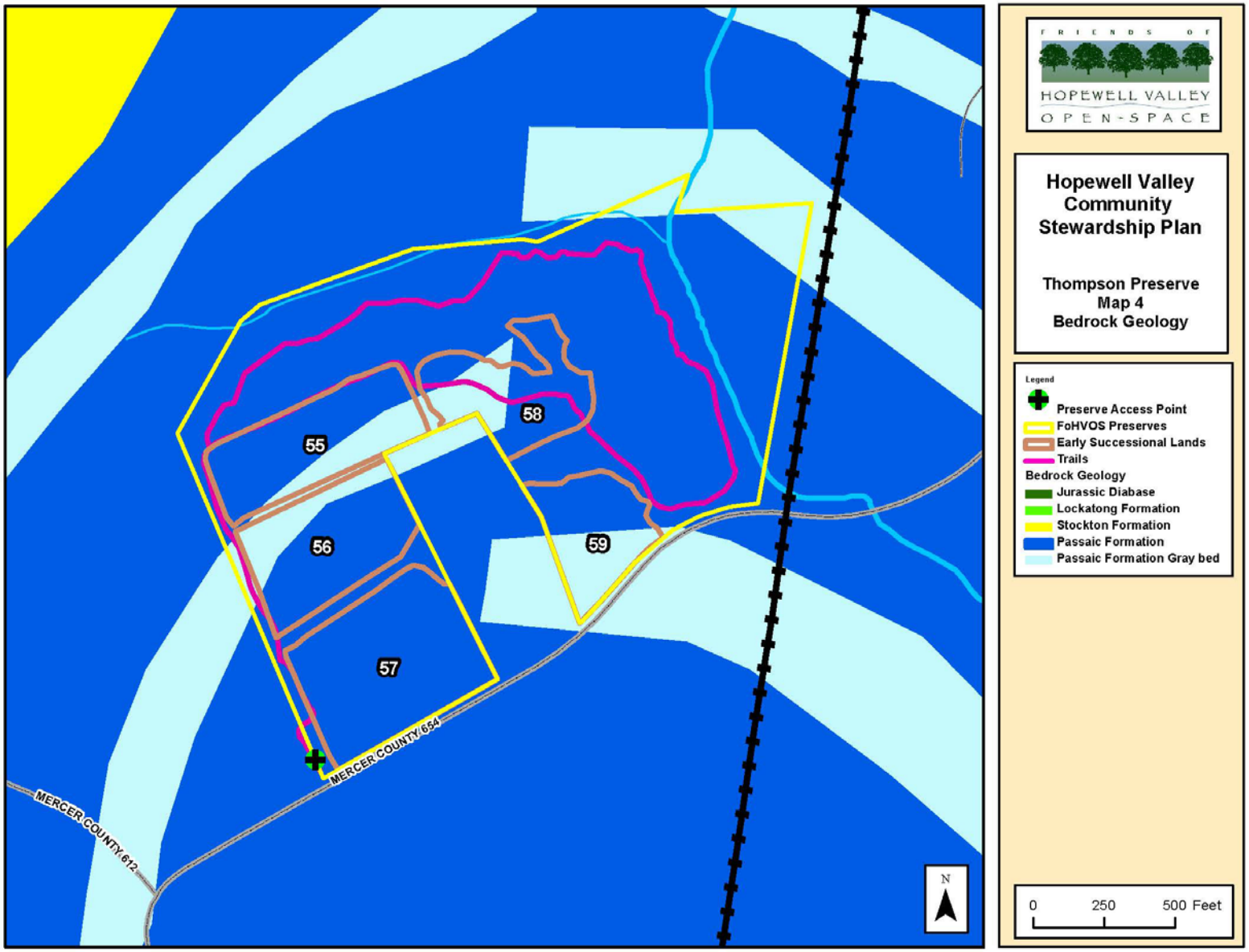
Marshalls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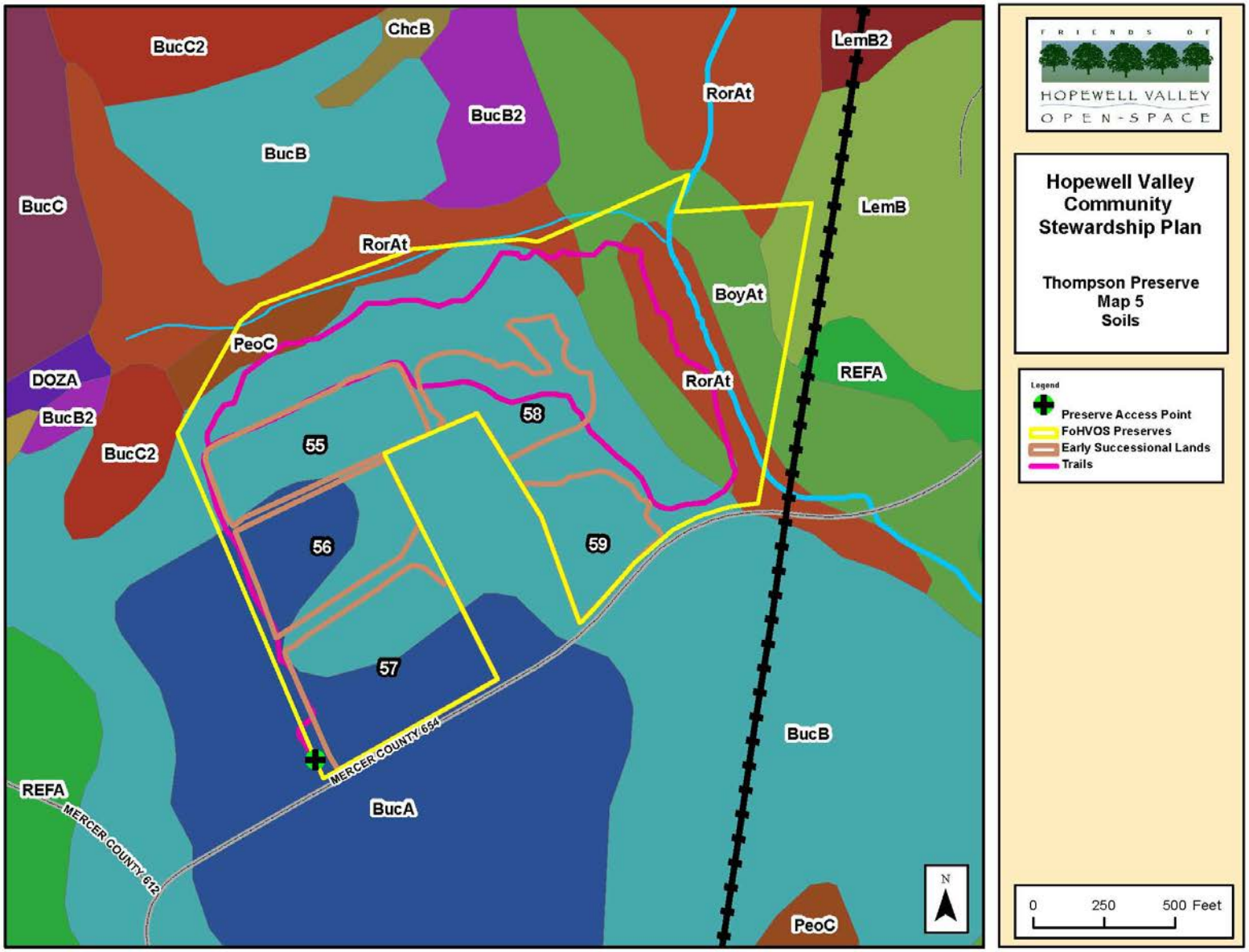
MERCER COUNTY 654
MERCER COUNTY 612
N
FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 4
Bedrock Geology
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
Bedrock Geology
Jurassic Diabase
Lockatong Formation
Stockton Formation
Passaic Formation
Passaic Formation Gray bed
0
250
500 Feet


BucC2
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BucB2
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MERCER COUNTY 654
REFA
MERCER COUNTY 612
BucA
BucB
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FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 5
Soils
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
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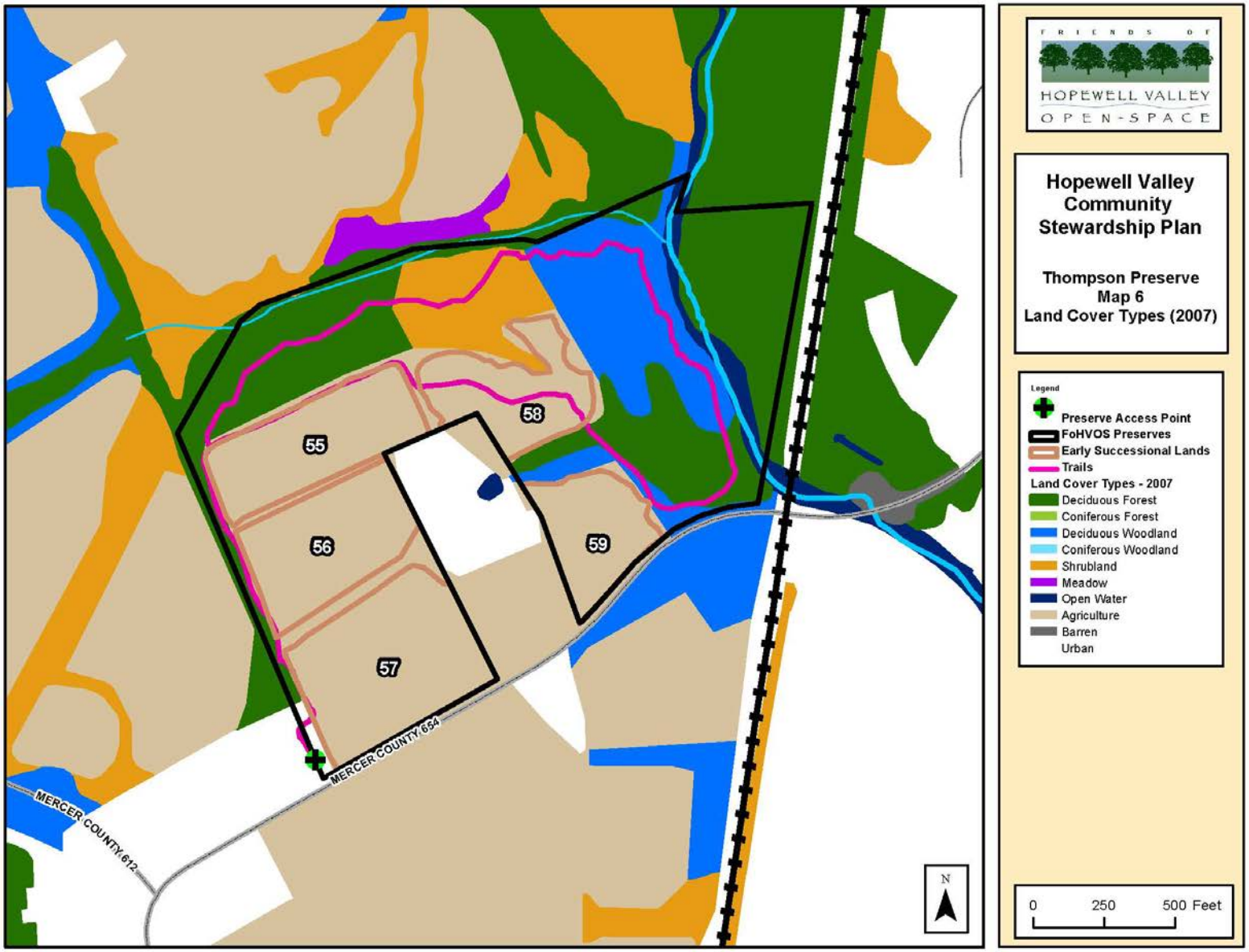
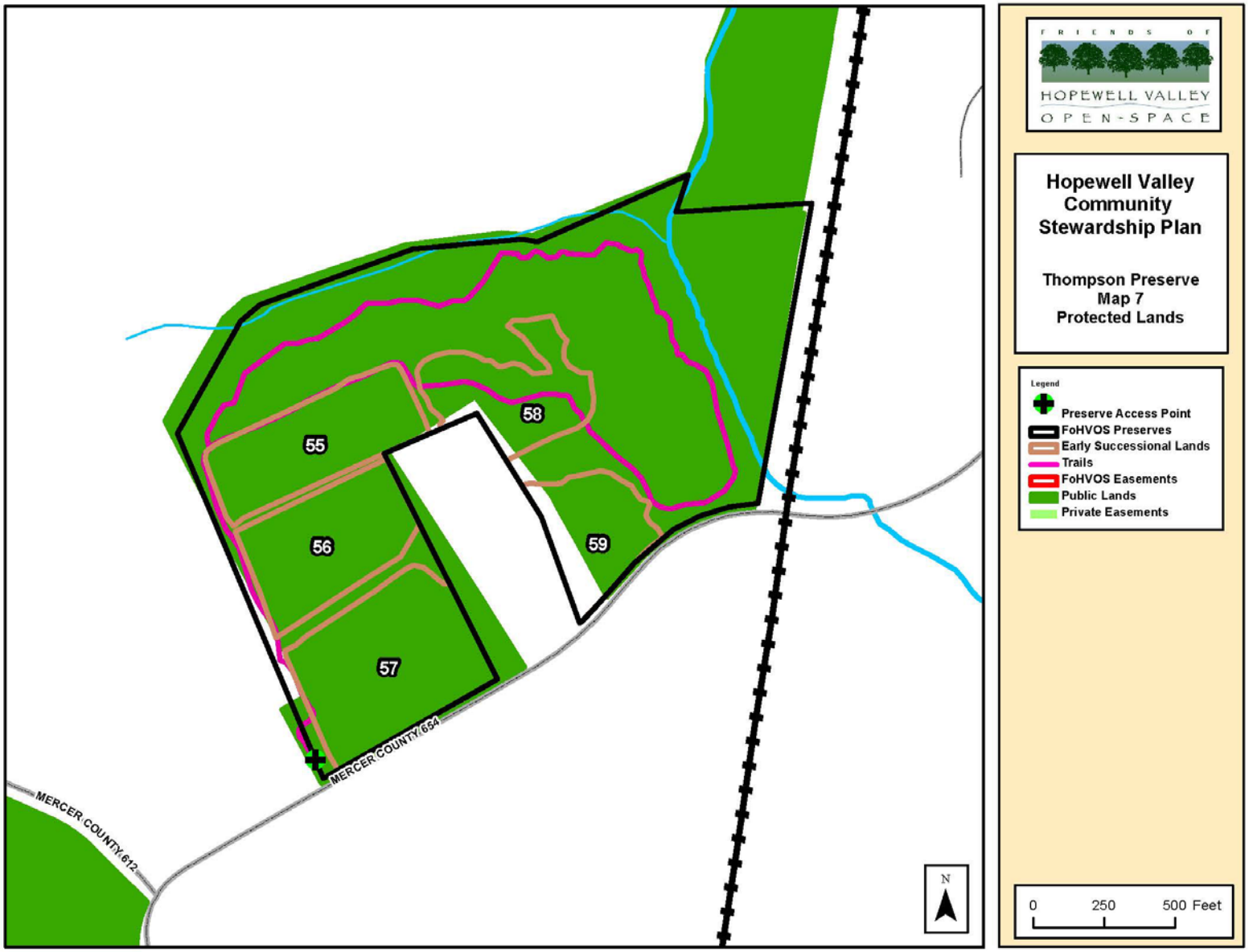
250
500 Feet


FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 6
Land Cover Types (2007)
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
Land Cover Types - 2007
Deciduous Forest
Coniferous Forest
Deciduous Woodland
Coniferous Woodland
Shrubland
Meadow
Open Water
Agriculture
Barren
Urban
55
56
57
58
59
MERCER COUNTY 654
MERCER COUNTY 612
N
0
250
500 Feet


FRIENDS OF
HOPEWELL VALLEY
OPEN SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 7
Protected Lands
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
FoHVOS Easements
Public Lands
Private Easements
55
56
57
58
59
MERCER COUNTY 654
MERCER COUNTY 612
N
0
250
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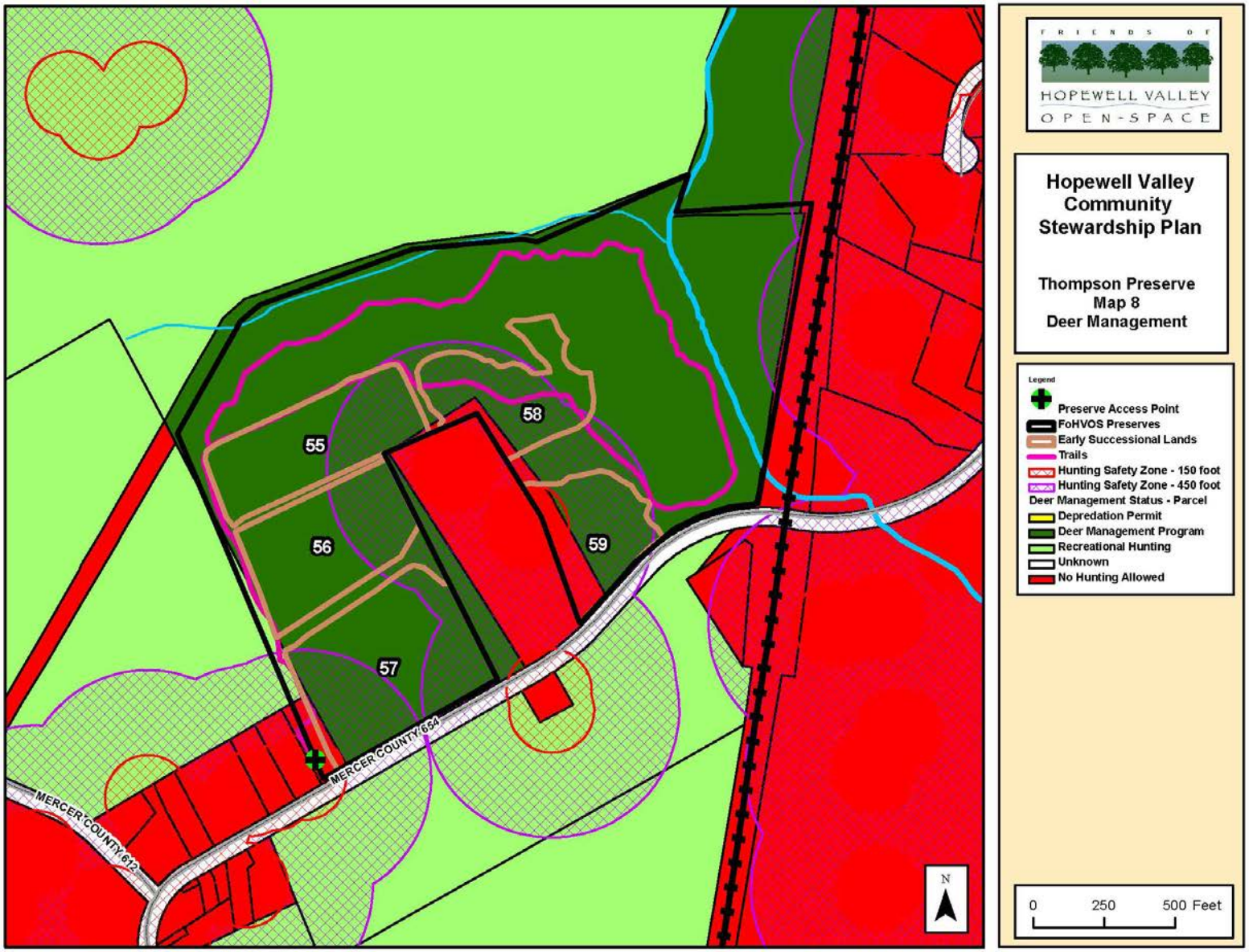
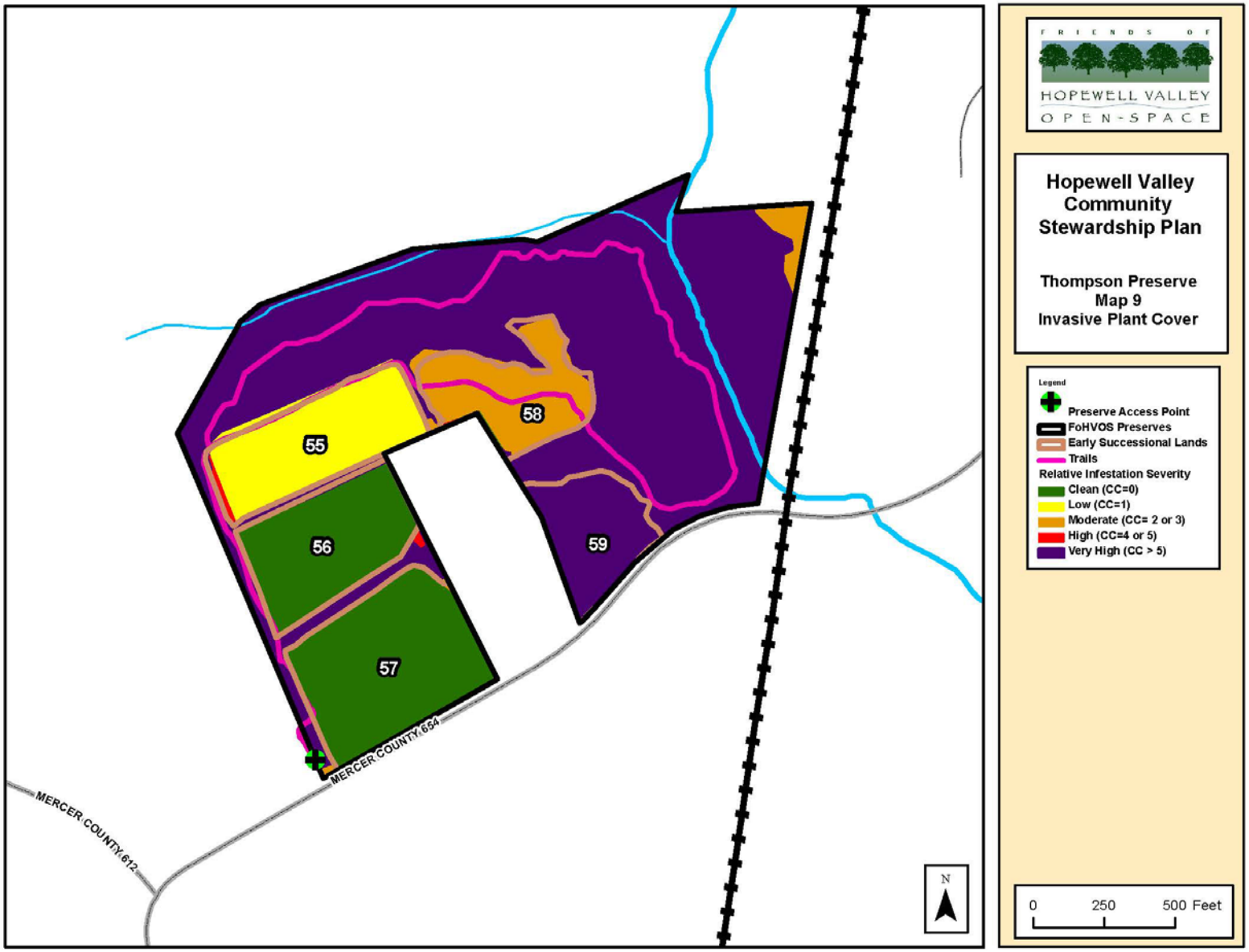

FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 8
Deer Management
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
Hunting Safety Zone - 150 foot
Hunting Safety Zone - 450 foot
Deer Management Status - Parcel
Depredation Permit
Deer Management Program
Recreational Hunting
Unknown
No Hunting Allowed
55
56
57
58
59
MERCER COUNTY 654
MERCER COUNTY 612
N
0
250
500 Feet


55
56
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MERCER COUNTY 654
MERCER COUNTY 612
N
FRIENDS OF
HOPEWELL VALLEY
OPEN-SPACE
Hopewell Valley Community Stewardship Plan
Thompson Preserve
Map 9
Invasive Plant Cover
Legend
Preserve Access Point
FoHVOS Preserves
Early Successional Lands
Trails
Relative Infestation Severity
Clean (CC=0)
Low (CC=1)
Moderate (CC= 2 or 3)
High (CC=4 or 5)
Very High (CC > 5)
0
250
500 Feet