

**Hopewell Valley Community Stewardship Plan
Friends of Hopewell Valley Open Space**

**Appendix 5.
Elks Preserve**

Acreage: 44.6

Block and Lot: B20, L10

Ownership: FoHVOS (100%)

Year(s) Purchased: 2000

Location & Access: The preserve is located on the south side of Crusher Road, approximately 0.2 miles east of Route 654. Nearest street address: 172 Crusher Road, Hopewell. A formal gravel parking lot is installed at the preserve entrance.

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:

Elks Preserve is in the Mount Rose vicinity of Hopewell Township. A loop trail of just over 1 mile traverses through former agricultural lands, now reverting to red maple and red cedar. In addition, the trail connects to the Stony Brook Millstone Watershed Association trail network, offering a longer hike.

BROAD PROPERTY DESCRIPTION

The Elks Preserve (See Map 1) is located in north central Hopewell Township. The topography (see Map 3) is flat at 60 to 70 feet above sea level.

Based upon analysis of NJDEP's 2007 Land Use/Land Cover dataset, the preserve contains two broad plant communities: Deciduous Forest (> 50% canopy) - Upland, Deciduous Forest (> 50% canopy) - Wetland. The preserve is surrounded by residential parcels and Stony Brook-Millstone Watershed Association. Land Use/Land Cover is summarized in Appendix X and illustrated in Map 6.

Historically the preserve and adjacent land, was in agricultural use. The preserve's forest is early successional with moist, compacted soils. The canopy is composed primarily of red cedar, red maple and ash. The understory is comprised of multiflora rose, and sporadic burning bush, spicebush, linden viburnum, arrowwood, blackhaw, wintercreeper, Asiatic bittersweet, Japanese stiltgrass, and Japanese barberry. Lesser celandine occupies agricultural drainage ditches that run across the preserve. A patch of a princess pine species can be found along the northeastern leg of the trail.

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In the center of the preserve is a small patch of forest with increased species diversity. It includes American beech, black oak, round leaved greenbriar, black cherry, blackhaw, and partridgeberry.

The preserve has two types of bedrock geology--the Passaic formation and Passaic formation gray bed. See Map 4.

The preserve has seven soil types (see Map 5) with Doylestown and Reaville variant silt loams, 0 to 2 percent slopes; Doylestown and Reaville variant silt loams, 2 to 6 percent slopes; and Lawrenceville and Mount Lucas silt loams, 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 of 25-50%. See Appendix A for a description of ranking factors.

Forest and Woodland Communities: The preserve is part of the Mount Rose large forest patch. Forest habitat patch size from Landscape Project is 1921 acres, however, this patch is severely fragmented by road and developments.

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 spottiness of the woodland shrub layer reduces the value for nesting and successful breeding of birds. However, significant thickets of spicebush are found the preserve's center. Arrowwood is found throughout the preserve but below the browse line.

Old forest: None on the preserve (See Map 2). To the north of Crusher Road, is approximately 180 acres of 1930s era forest.

Early Successional Communities:

Shrublands: N/A

Meadows/Grasslands: N/A

Waterbodies: Unnamed intermittent streams/former agricultural ditches flow across the preserve. Vernal pool activity (wood frog eggs) has been observed in tire tracks along former woods roads.

Rare Species:

Rare Plants: None documented on the Preserve, but Natural Heritage grid data shows Willdenow's sedge (*Carex willdenowii*), as present in the grid.

Rare Animals: The Landscape Project has identified the Preserve as ranked for species of State Endangered Species. The Preserve has suitable wood turtle habitat in the eastern areas. See Appendix L for a list of species.

THREATS

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

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Invasive species: In 2008 staff began walk-through surveys for emerging invasive species on all preserves. Mapping documented each species and its population size. Wintercreeper and linden viburnum 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: Japanese Stiltgrass, Multiflora Rose, Japanese Honeysuckle, Japanese Barberry and Autumn Olive.

Other: N/A

STRATEGIES and ACTIONS

Forest and Woodland Habitat Stewardship: Annual surveys for and eradication of emerging invasive species is a high priority at this Preserve. Fruiting linden viburnum and wintercreeper have been eradicated. Further surveys and eradication work for these species will continue.

No action is recommended for widespread invasive species, except for winged burning bush and Asiatic bittersweet (See Table 1 below). All fruiting and flowering individuals should be removed from the preserve. Eradication of large bittersweet vines was completed in 2008. Reduced deer density will allow the native plant communities to recover and compete with all other widespread invasive species on a long-term basis.

Early Successional Habitat Stewardship: N/A

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 for presence of rare species. Maintain forest habitat for rare species. Coordinate activities with Stony Brook-Millstone Watershed Association.

Neighboring Lands: See Deer Management. Partnerships with Stony Brook-Millstone Watershed Association can be sought for habitat improvement projects. See Map 7.

Waterbodies Management: Through grant funding, consider creation of vernal pool sites to provide additional habitat.

Undesirable Activities Management: N/A

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

Recreational Opportunities Assessment: This property has a parking and a 1 mile loop trail that connects to the Stony Brook-Millstone Watershed Association trail network.

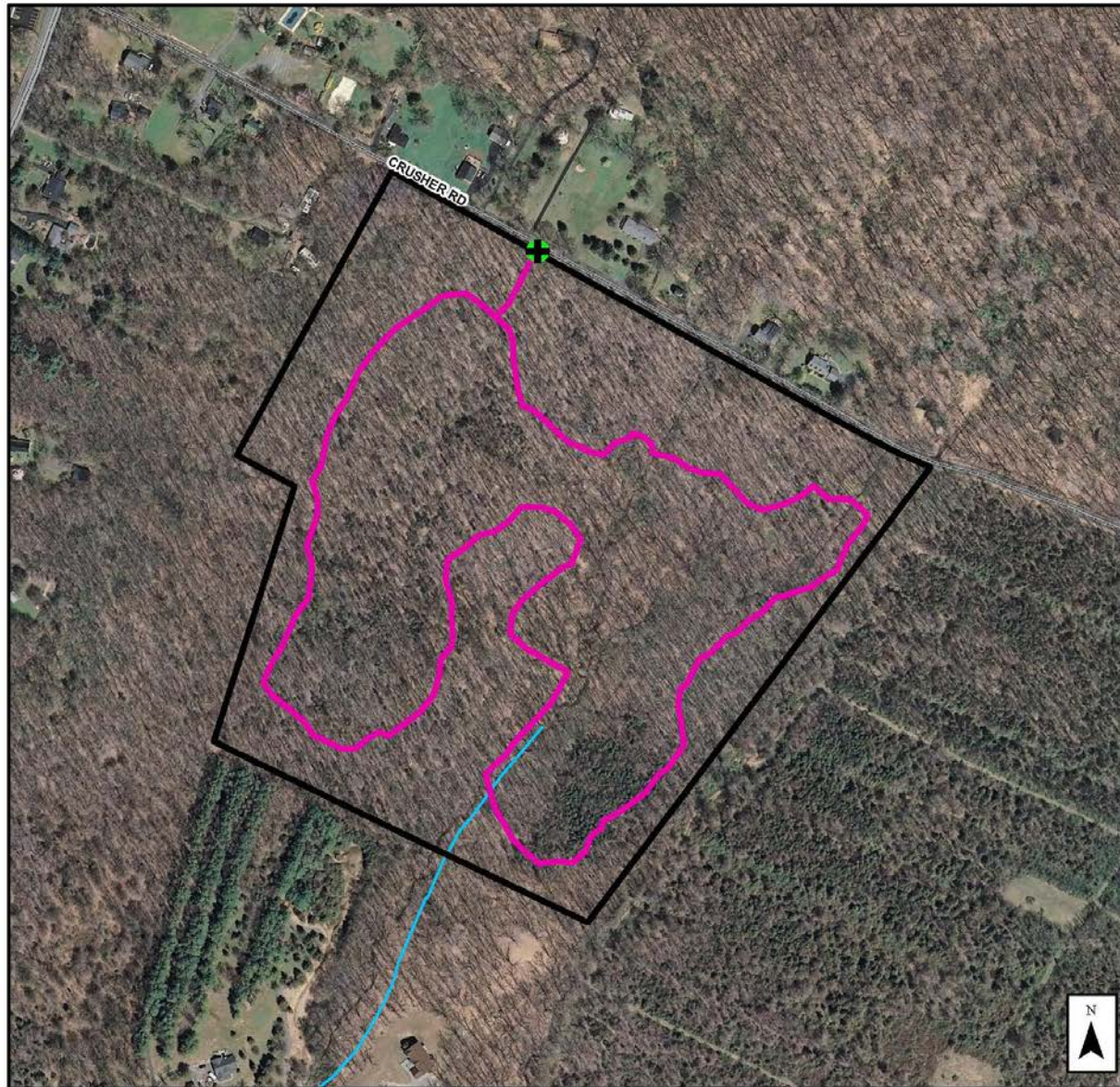
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Table 1. Invasive Plants – Species Abundance and Treatment Recommendations

Scientific Name	Common Name	Infestation Index Score ¹	Total Acres Present	Percent of Preserve Area Present	Treatment Recommendation	LOE Estimate (Hours)	Acreage by Percent Ground Cover Categories						
							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%
<i>Acer palmatum</i>	Japanese Maple	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Acer platanoides</i>	Norway Maple	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.00	0.0	0.00	0.0
<i>Ailanthus altissima</i>	Tree-of-Heaven	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Alliaria petiolata</i>	Garlic Mustard	4.5	2.5	5.9	None		39.61	0.0	0.5	2.0	0.0	0.0	0.0
<i>Artemisia vulgaris</i>	Common Mugwort	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Arthraxon hispidus</i>	Small Carpgrass	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Berberis thunbergii</i>	Japanese Barberry	41.5	36.5	86.8	None		5.55	0.0	31.6	5.0	0.0	0.0	0.0
<i>Cardamine impatiens</i>	Narrow-leaved Bittercress	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Catalpa bignonioides</i>	Northern Catalpa	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet	17.7	15.6	37.1	Control - Treat Fruiting Plants	10	26.47	6.8	0.0	8.9	0.00	0.0	0.0
<i>Centurea sp.</i>	Knapweed sp.	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cirsium arvense</i>	Canada Thistle	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Dipsacus sylvestris</i>	Teasel	0.0	0.0	0.0	N/A		42.09	0.0	0.00	0.0	0.0	0.0	0.0
<i>Eleaagnus umbellata</i>	Autumn Olive	19.5	19.3	45.9	None		22.76	3.2	13.7	1.6	0.9	0.0	0.0
<i>Euonymus alata</i>	Winged Burning Bush	0.0	2.8	6.7	Control - Treat Fruiting Plants	5	39.25	2.8	0.0	0.0	0.0	0.0	0.00
<i>Iris pseudoacris</i>	Yellow Iris	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lespedeza cuneata</i>	Chinese Bushclover	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ligustrum obtusifolium</i>	Border Privet	19.0	19.0	45.0	None		23.14	0.0	18.95	0.0	0.0	0.0	0.0
<i>Lonicera japonica</i>	Japanese Honeysuckle	67.1	27.4	65.1	None		14.67	0.0	4.1	7.0	16.4	0.0	0.0
<i>Lonicera maackii</i>	Amur Honeysuckle	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.00	0.0	0.0
<i>Lysimachia nummularia</i>	Moneywort	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lythrum salicaria</i>	Purple Loosestrife	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Malus toringo</i>	Toringo Crabapple	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Microstegium vimineum</i>	Japanese Stiltgrass	172.6	42.0	99.7	None		0.13	0.0	0.0	1.9	12.5	6.5	21.1
N/A	Non-native, cool season grass	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phalaris arundinacea</i>	Reed Canary Grass	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phragmites australis</i>	Common Reed	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygonum cuspidatum</i>	Japanese Knotweed	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygonum perfoliatum</i>	Mile-a-Minute	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Pyrus calleryana</i>	Callery Pear	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ranunculus ficaria</i>	Lesser Celandine	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Robinia pseudoacacia</i>	Black Locust	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rosa multiflora</i>	Multiflora Rose	105.2	35.6	84.6	None		6.47	0.0	11.4	4.9	0.9	11.2	7.4
<i>Rubus phoenicolasius</i>	Wineberry	15.4	28.6	67.9	None		13.50	16.0	9.8	2.8	0.0	0.0	0.0
<i>Securigera varia</i>	Crown vetch	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Viburnum dilatatum</i>	Linden Viburnum	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Viburnum sieboldii</i>	Siebold's Viburnum	0.0	0.0	0.0	N/A		42.09	0.0	0.0	0.0	0.0	0.0	0.0
<i>Wisteria floribunda</i>	Japanese Wisteria	0.0	0.0	0.0	N/A		42.09	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.

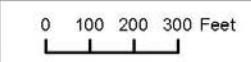
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**Elks Preserve
Map 1
2007 Aerial Photography**

- Legend**
-  Preserve Access Point
 -  FoHVOS Preserves
 -  Early Successional Lands
 -  Trails



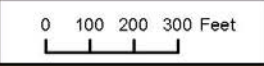
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**Elks Preserve
Map 2
1930 Aerial Photography**

- Legend**
- Preserve Access Point
 - ▭ FoHVOS Preserves
 - ▭ Early Successional Lands
 - Trails



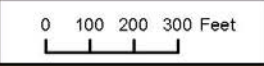
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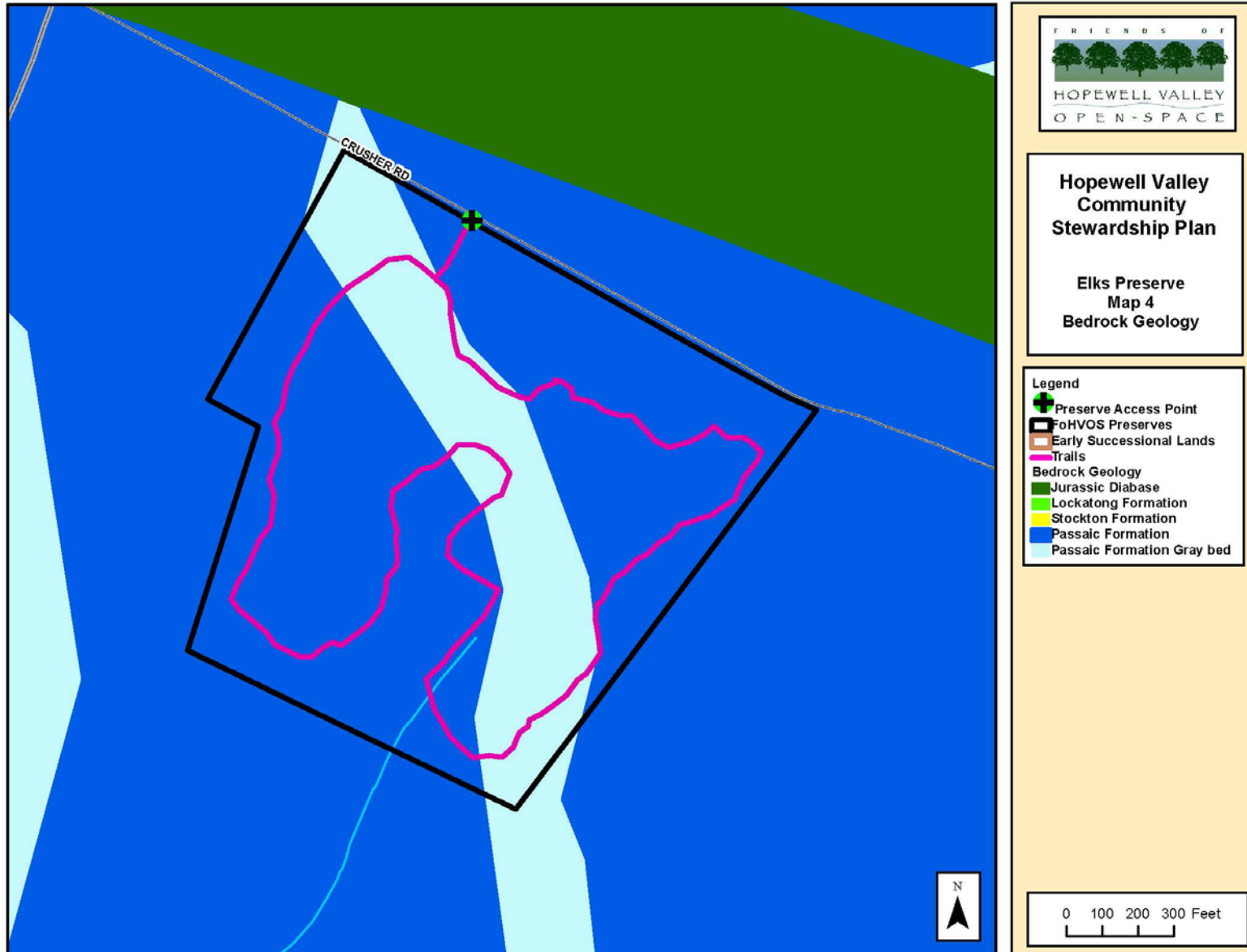
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Elks Preserve
Map 3
Topography

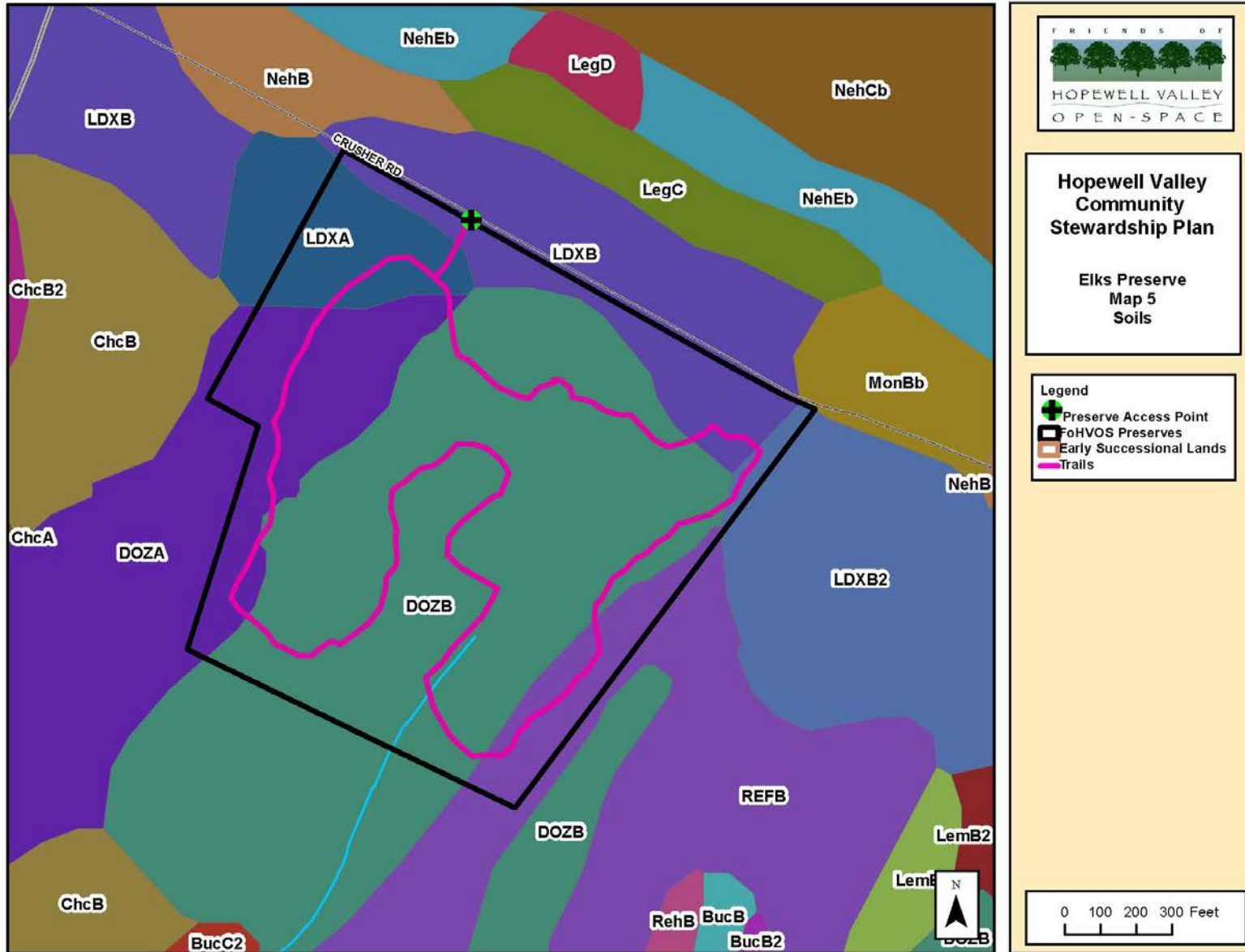
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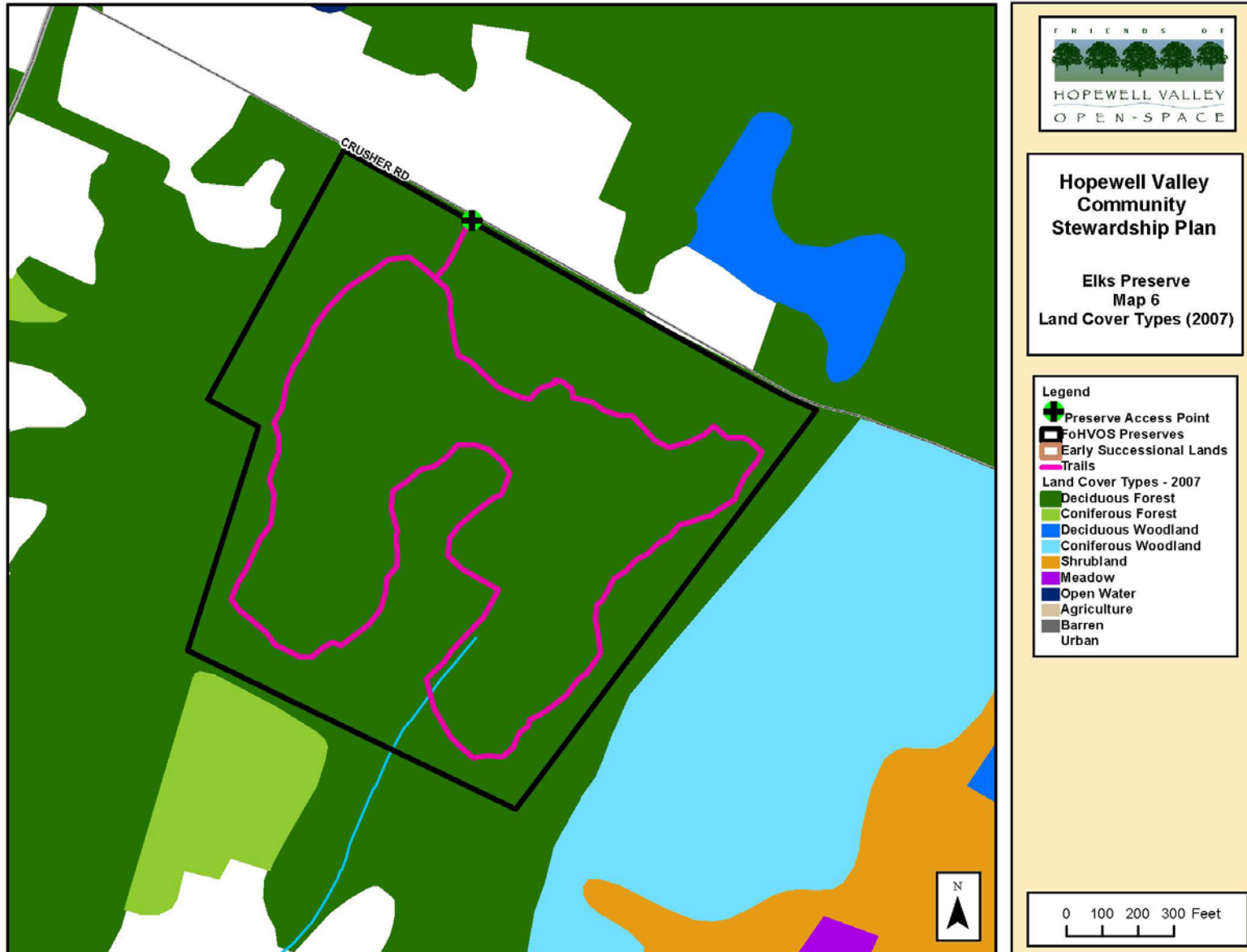
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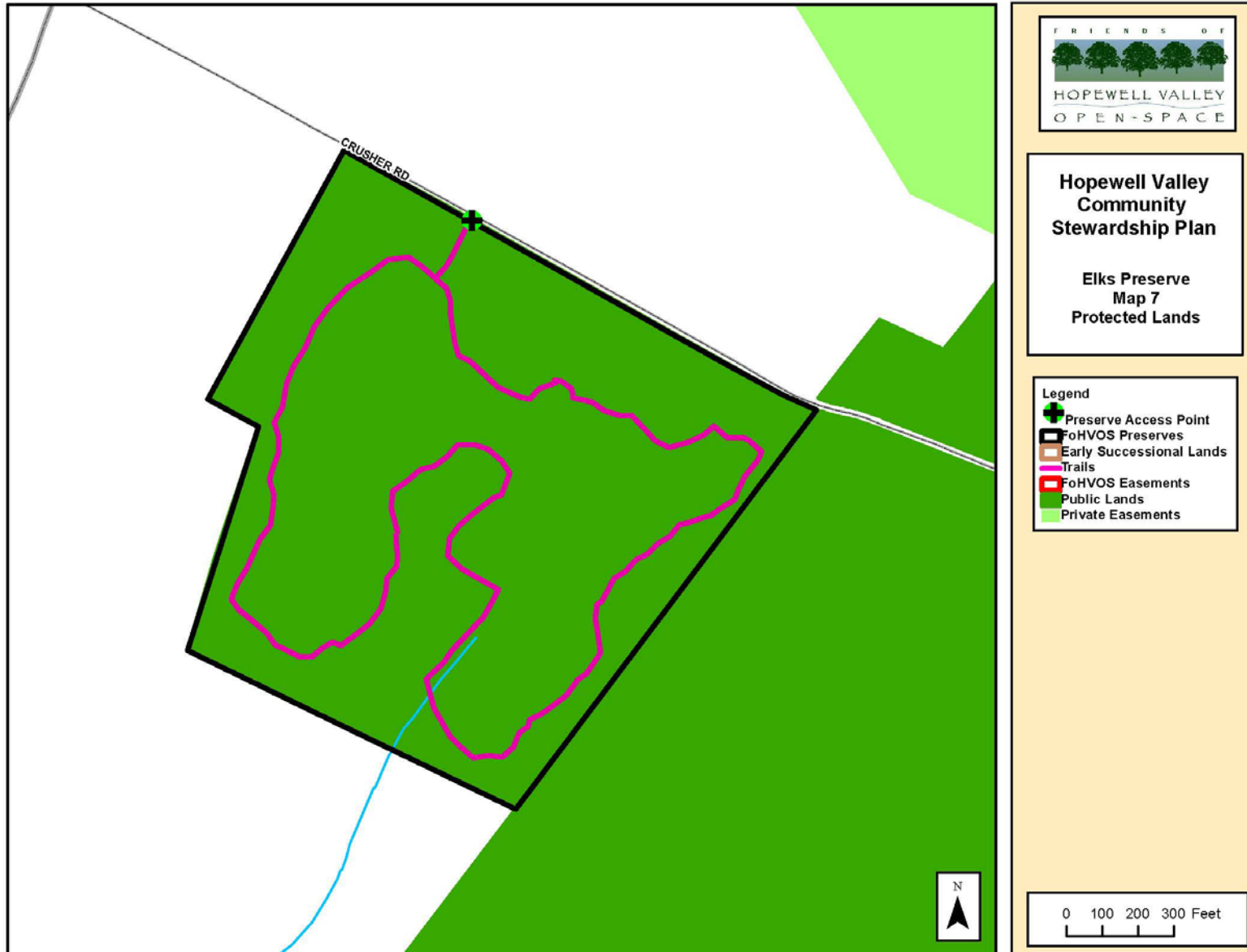
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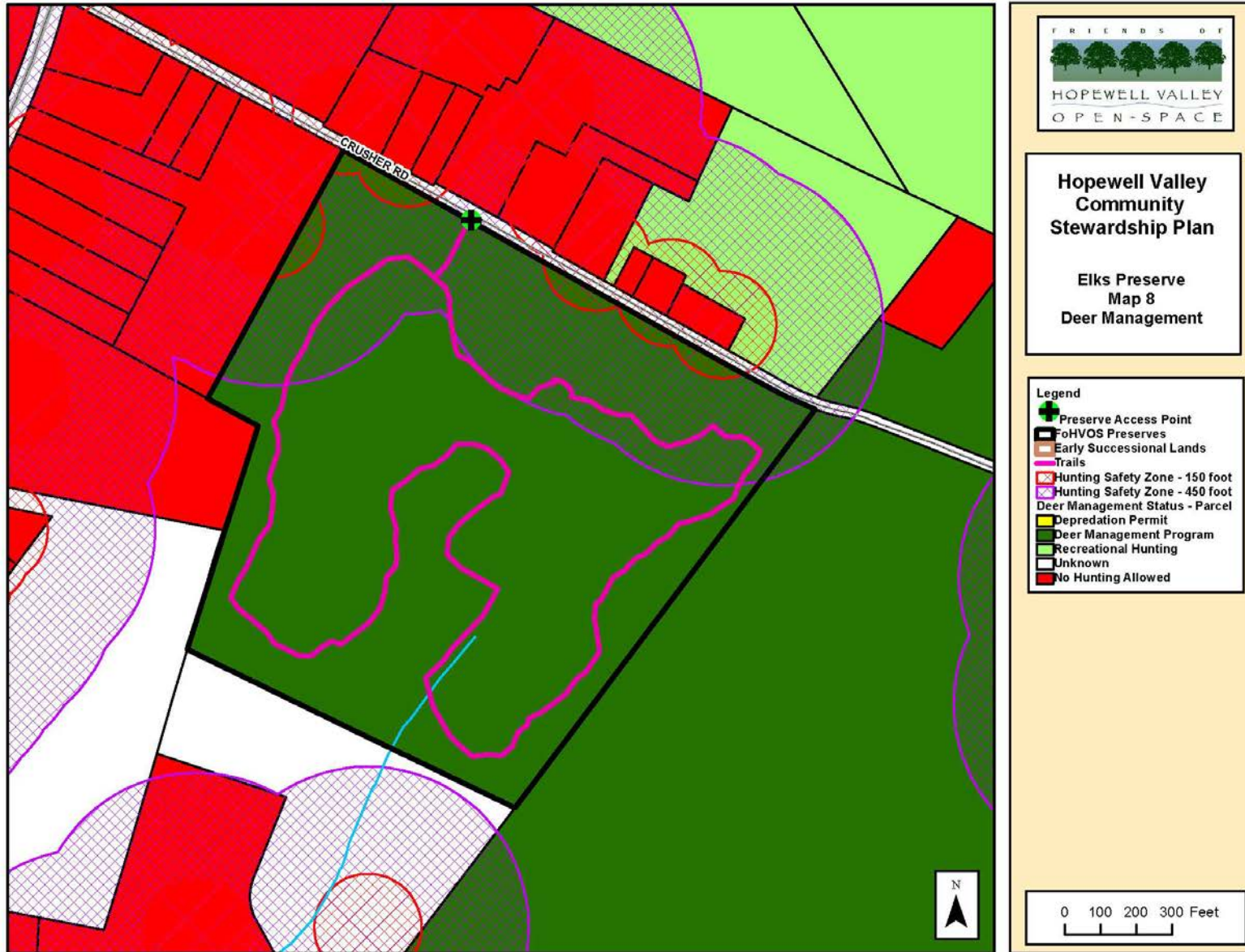
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