

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

**Appendix 22.
Ted Stiles Preserve at Baldpate Mountain**

Acreage: 1,222

Block and Lot: Multiple. B59, L2; B60, L1, 5, 6, 7, 7.01, 17, 18, 21, 27, 31, 32, 37, 38, 43, 47, 50

Ownership: NJDEP, Mercer County, Hopewell Township, FoHVOS. Percentages TBD. **Note:** Mercer County maintains all infrastructure: driveways, parking lots, gates, buildings, and trails.

Year(s) Purchased: 1998

Location & Access: Ted Stiles Preserve at Baldpate Mountain is located between Route 29, Fiddler's Creek Road and Pleasant Valley Road. There are two major public access points with large parking areas:

- 1.) Primary Southern Entrance: Fiddler's Creek Road (0.1 mile east of Route 29) through access gates to Strawberry Hill and the modern facilities at the top of the preserve. Parking limited. Staff and handicapped visitors may park at modern facilities. Less than ¼ mile east of this entrance lays the entrance for a large parking area located at the base of the mountain. Nearest street address: 11 Fiddler's Creek Road, Titusville, NJ 08560
- 2.) Primary Northern Entrance: A large parking area, including space for horse trailers, occurs along Pleasant Valley Road (1.2 miles east of Route 29). Nearest street address: 84 Pleasant Valley Road, Titusville, NJ 08560

Additional access occurs at the following:

- 3.) Fiddler's Creek Road (1.1 miles east of Route 29 or 0.5 miles west of Church Road) to roadside parking at Creek Spur trail.
- 4.) Church Road (just east of intersection with Fiddler's Creek Road) at Kuser Easement/Honey Hollow Trail. Parking is on Brick Road (part of Washington Crossing State Park). Marked with a sign reading "Niederer's Pond."
- 5.) Pleasant Valley Road (1.3 miles east of Route 29 at Hunter Road. Hunter Road is closed to traffic. It is owned by Mercer County Park Commission/Howell Living History Farm.) to Pleasant Valley Trail. No parking is immediately available. Park at the Howell Living History Farm and walk down Hunter Road to Pleasant Valley Road. Gates to the Farm closed after hours.
- 6.) Route 29 (0.6 miles north of Fiddler's Creek Road) to Switchback Trail. Parking area is unmarked. Park in grass alongside old home.

Structures: Two modern facilities are located at the top of Strawberry Hill: a small "Lodge" and the former residence – Strawberry Hill Mansion. Both are closed except for scheduled events. Public restrooms at the Lodge are always open.

One former residence and barn are located at the Route 29 access point. In addition, multiple barns, outbuildings, and stone foundations are located throughout the preserve.

Hopewell Valley Community Stewardship Plan Friends of Hopewell Valley Open Space

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:

Ted Stiles Preserve at Baldpate Mountain is Hopewell Township's largest contiguous forest. Because of this distinction, it is home to numerous unique and rare plant and animal species and is an Audubon Important Bird Area. A series of trails winds through the preserve. This preserve is co-owned with New Jersey Department of Environmental Protection, Mercer County Park Commission and Hopewell Township.

BROAD PROPERTY DESCRIPTION

The preserve (See Map 1) is located in the southwestern region of Hopewell Township and is part of the Sourland Mountain region. The topography (See Map 3) is rolling to extremely steep and rocky flat at 50 to 470 feet above sea level.

Based upon analysis of NJDEP's 2007 Land Use/Land Cover dataset, the preserve contains 12 broad plant communities. The majority are upland: Coniferous Forest (> 50% canopy) - Upland; Deciduous Forest (> 50% canopy) - Upland; Coniferous Woodland (10-50% canopy) - Upland; Deciduous Woodland (10-50% canopy) - Upland; Shrubland (< 10% canopy, > 25% shrub cover) - Upland; Meadows (< 25% shrub cover) - Upland. Two are wetland: Deciduous Forest (> 50% canopy) - Wetland and Meadows (< 25% shrub cover) - Wetland. The remaining are Open Water, Urban Lands, and Agricultural Lands.

Upland and wetland forest types account for 928 acres of the preserve, while 126 acres are open habitats. Of that 126 acres, 8.3 were fenced and reforested in 2010.

Though designated as agricultural land, no fields are in active agriculture. Urban land refers to the ROW, parking lot and building complexes. Land Use/Land Cover is summarized in Appendix X and illustrated in Map 6.

The preserve is primarily forest and is Hopewell Township's largest, contiguous forest block. The summit and ridge areas are diabase, and in fact, the preserve is part of the Sourland Mountain ridge. Geology most likely accounts for the historical forest cover. The majority of the center portion of the preserve was forested as of the 1930s, except for areas around the mansion. Eastern portion of the preserve was utilized more heavily for agriculture. Forestry activities have occurred repeatedly over the years and the entire mountain was devoid of trees during the 1800's.

The past land use history of the preserve has greatly affected the plant composition. Multiflora rose accounts for a significant portion of the preserve's understory. Meanwhile, 34 acres contain maple leaf viburnum, and 270 acres contain spicebush. Bladdernut occurs along seeps on the eastern side of the preserve. Canopy trees include tulip tree, ash, red maple, American beech, and oaks. Woodland

Hopewell Valley Community Stewardship Plan Friends of Hopewell Valley Open Space

wildflowers include: spring beauty, bluebells, bloodroot, Joe Pye weed, alumroot, skunk cabbage, toothwort, and others. The greatest diversity of species occurs in areas without an agricultural history across the forested diabase ridge.

The preserve has 3 types of bedrock geology--the Jurassic, Passaic, and Passaic Gray Bed (very minimal acreage) formations. See Map 4.

The preserve has 25 soil types (see Map 5) with Neshaminy silt loam, 6 to 12 percent slopes, very stony; Legore gravelly loam, 12 to 18 percent slopes; and Legore gravelly loam, 18 to 30 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 >75%. See Appendix A for a description of ranking factors.

Forest and Woodland Communities: The Preserve is a part of the RHWHP Baldpate Forest Focal Area. As previously mentioned, the preserve is Hopewell Township's largest forest and contains a matrix of upland and mesic forest types. It serves as breeding habitat for numerous neotropical birds, as well as forest-dwelling herbs that prefer less disturbed sites.

Old forest: Based upon analysis of 1930 aerial photography, 591 acres of the preserve were forested. The largest blocks of old forest are concentrated around the Strawberry Hill area, north and south of the summit. See Map 2.

Early Successional Communities:

Shrublands: Shrublands are scattered across the preserve. They include canopy gaps maintained by unknown users, powerline ROW, areas where forestry was conducted, and former agricultural areas. All are heavily infested by invasive species.

Meadows/Grasslands: Meadows on the preserve are primarily upland and lack species diversity.

Waterbodies: Portions of Fiddler's Creek (minimally), Moore Creek, and unnamed tributaries flow through the preserve.

Rare Species:

Rare Plants: Natural Heritage and staff surveys have documented 10 rare plant species (globally ranked, State Endangered, State "threatened", and State "special concern"), Aunt Lucy, green violet, Ohio spiderwort, redbud, slender toothwort, and small-fruit groovebur.

Rare Animals: The Landscape Project has identified the Preserve as ranked for habitat for wood turtle. The preserve is habitat for State Endangered, Threatened, and Special Concern Species.

See Appendix L for a list of species.

THREATS

Deer: Mercer County Park Commission has been conducting a successful DMP on the Preserve for over 10 years. Portions of the preserve's native plant communities show significant recovery with spicebush beginning to shade out invasive species such as Japanese barberry and garlic mustard. However, adjacent

Hopewell Valley Community Stewardship Plan Friends of Hopewell Valley Open Space

Washington Crossing State Park land is not hunted and large numbers of deer have been observed north of the Preserve during Valley-wide nighttime deer counts in 2010 and 2012.

Native woody plants and herbs are severely browsed. Areas with the steepest topography contain the pockets of robust vernal wildflowers. Immediately adjacent areas with steep topography, but not steep enough to exclude deer have fewer and less robust herbs.

Forest health monitoring was performed in 2007/2008 (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. Fourteen species have been found: fiveleaf akebia, kousa dogwood, European spindle tree, English ivy, Chinese bushclover, Toringo crabapple, Oriental photinia, mile a minute, weeping cherry, Japanese snowball viburnum, Linden viburnum, Seibold's viburnum, and Japanese wisteria. 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, Japanese honeysuckle, autumn olive, Japanese stiltgrass, and Japanese barberry had the highest ranking Infestation Index Scores (See Table 1 below).

Shade tolerant invasive species with significant Infestation Index Scores include linden viburnum and winged euonymus.

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. No action is recommended for widespread invasive species except for those occurring in restoration areas and linden viburnum, winged euonymus, and Asiatic bittersweet (see Table 1 below).

Reduced deer density will allow the native plant communities to recover and compete with all other widespread invasive species on a long-term basis. Notably, the most severe invasive species are all shade-intolerant. With increased native woody cover, it is expected that these invasive species will be shaded out over time. This requires a significantly lower deer population and possibly additional factors (such as rose rosette disease) to allow native species recruitment.

Early Successional Habitat Stewardship: Overall, the goal for successional habitats on the preserve is reforestation to enhance the contiguous nature of the forest. Ultimately, however, these goals are affected by access and the need for other uses. Exceptions to the reforestation goals are: Fields 4 and 5 (powerline ROW must be maintained); Field 6 (viewshed); Field 10 (viewshed with possible shrubland restoration, sloping topography allows for shrubland and a clear view of Delaware River); Fields 11, 13, and 17 (maintain lawn/meadow for preservation of historic buildings); and Field 18 (remove invasive cover, maintain meadow to preserve homestead, accessible via old road).

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

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

Hopewell Valley Community Stewardship Plan
Friends of Hopewell Valley Open Space

formation of a Quality Deer Management Cooperative with adjoining and nearby neighbors is being developed through the Hopewell Township Deer Management Advisory Committee (including a FoHVOS leadership role).

Rare Species Management: Create conservation plans and survey for presence of rare species with priority on green violet, redbud, and other data-sensitive species. Sharyn Magee conducts regular surveys for neotropical breeding birds. Her work is submitted to the e-Bird database.

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

Waterbodies Management: No recommendations.

Undesirable Activities Management: N/A

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

Recreational Opportunities Assessment: The trail system is maintained by the Mercer County Park Commission and connects to Washington Crossing State Park trails and eventually to Hollystone Preserve (currently undeveloped).

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

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		1132.33	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		1132.33	0.0	0.0	0.00	0.0	0.00	0.0
<i>Ailanthus altissima</i>	Tree-of-Heaven	7.7	12.5	1.1	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1119.85	6.5	5.6	0.0	0.0	0.0	0.4
<i>Alliaria petiolata</i>	Garlic Mustard	303.2	209.9	18.5	None		922.39	35.3	92.6	47.1	23.7	11.4	0.0
<i>Artemisia vulgaris</i>	Common Mugwort	6.6	8.1	0.7	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1124.21	5.3	0.0	1.8	1.0	0.0	0.0
<i>Arthraxon hispidus</i>	Small Carpgrass	10.3	13.6	1.2	None		1118.76	4.0	8.8	0.8	0.0	0.0	0.0
<i>Berberis thunbergii</i>	Japanese Barberry	841.6	768.6	67.9	None		363.71	147.1	464.4	109.0	33.5	14.7	0.0
<i>Cardamine impatiens</i>	Narrow-leaved Bittercress	7.7	11.1	1.0	None		1121.28	4.1	6.3	0.7	0.0	0.0	0.0
<i>Catalpa bignonioides</i>	Northern Catalpa	0.0	0.0	0.0	N/A		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet	4.9	88.6	7.8	Control - Treat Fruiting Plants	40	1043.76	83.6	4.9	0.0	0.00	0.0	0.0
<i>Centurea sp.</i>	Knapweed sp.	0.0	0.0	0.0	N/A		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cirsium arvense</i>	Canada Thistle	8.8	13.3	1.2	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1119.01	4.5	8.8	0.0	0.0	0.0	0.0
<i>Dipsacus sylvestris</i>	Teasel	17.6	8.8	0.8	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1123.54	0.0	0.00	8.8	0.0	0.0	0.0
<i>Eleagnus umbellata</i>	Autumn Olive	1830.9	970.4	85.7	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	161.91	145.8	276.6	285.0	106.4	117.9	38.7
<i>Euonymus alata</i>	Winged Burning Bush	76.3	264.0	23.3	Control - Treat Fruiting Plants	Strategy 2B	868.35	203.9	50.4	7.5	0.0	0.0	2.17
<i>Iris pseudoacris</i>	Yellow Iris	0.0	0.0	0.0	N/A		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lespedeza cuneata</i>	Chinese Bushclover	18.5	19.9	1.8	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1112.39	9.9	7.3	0.0	0.0	2.8	0.0
<i>Ligustrum obtusifolium</i>	Border Privet	43.8	153.0	13.5	None		979.30	114.6	32.98	5.4	0.0	0.0	0.0
<i>Lonicera japonica</i>	Japanese Honeysuckle	2229.3	1027.6	90.7	None		104.78	45.4	224.3	386.8	260.5	102.9	7.7

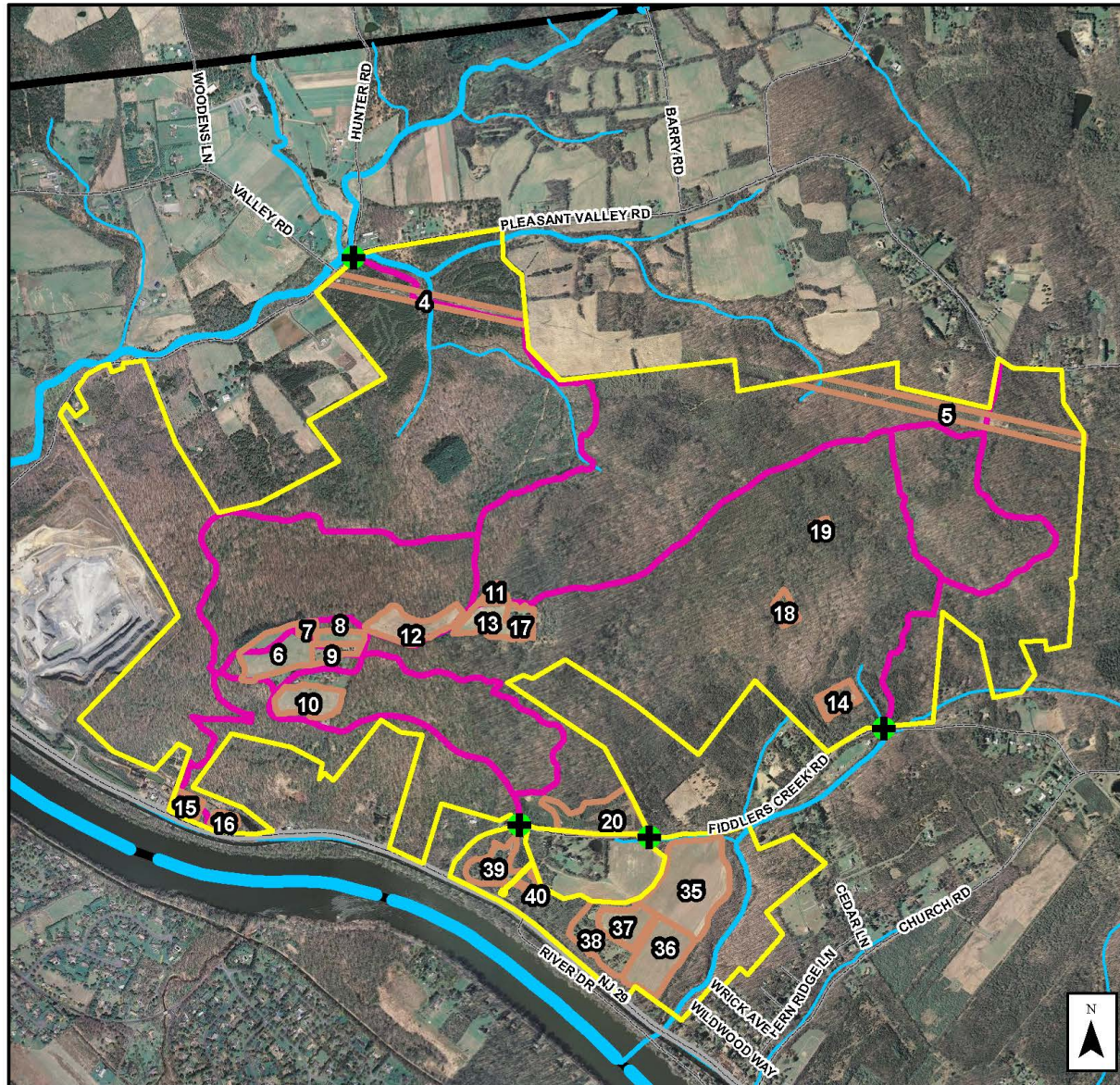
**Hopewell Valley Community Stewardship Plan
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Table 1. Invasive Plants – Species Abundance and Treatment Recommendations (continued)

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							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>Lonicera maackii</i>	Amur Honeysuckle	2.6	17.9	1.6	None		1114.43	15.4	2.6	0.0	0.0	0.0	0.0
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	12.9	11.6	1.0	None		1120.75	0.0	10.9	0.0	0.67	0.0	0.0
<i>Lysimachia nummularia</i>	Moneywort	0.0	0.0	0.0	N/A		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lythrum salicaria</i>	Purple Loosestrife	0.8	2.5	0.2	None - Check for biocontrol agent		1129.82	1.8	0.8	0.0	0.0	0.0	0.0
<i>Malus toringo</i>	Toringo Crabapple	28.1	136.7	12.1	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	995.59	114.1	17.2	5.4	0.0	0.0	0.0
<i>Microstegium vimineum</i>	Japanese Stiltgrass	949.1	623.3	55.1	None		508.99	103.1	288.2	118.7	60.8	21.7	30.9
N/A	Non-native, cool season grass	169.2	47.4	4.2	None		1084.95	0.0	13.7	2.8	0.0	4.5	26.4
<i>Phalaris arundinacea</i>	Reed Canary Grass	8.8	8.8	0.8	None		1123.54	0.0	8.8	0.0	0.0	0.0	0.0
<i>Phragmites australis</i>	Common Reed	9.3	13.4	1.2	None		1118.98	4.0	9.3	0.0	0.0	0.0	0.0
<i>Polygonum cuspidatum</i>	Japanese Knotweed	2.3	2.3	0.2	None		1130.06	0.0	2.3	0.0	0.0	0.0	0.0
<i>Polygonum perfoliatum</i>	Mile-a-Minute	78.0	60.1	5.3	None - Check for biocontrol agent		1072.19	0.0	46.8	8.7	4.6	0.0	0.0
<i>Pyrus calleryana</i>	Callery Pear	0.0	0.0	0.0	N/A		1132.33	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		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Robinia pseudoacacia</i>	Black Locust	1.6	1.2	0.1	Control - Restorations and Field Maintenance Only	Strategy 3A, 3B	1131.12	0.0	1.0	0.0	0.2	0.0	0.0
<i>Rosa multiflora</i>	Multiflora Rose	2902.5	1073.3	94.8	None		59.00	79.8	197.7	283.7	154.5	114.3	243.3
<i>Rubus pheonculusiasus</i>	Wineberry	819.5	812.1	71.7	None		320.27	153.4	557.0	72.7	5.0	17.8	6.2
<i>Securigera varia</i>	Crown vetch	0.0	0.0	0.0	N/A		1132.33	0.0	0.0	0.0	0.0	0.0	0.0
<i>Viburnum dilatatum</i>	Linden Viburnum	179.9	343.3	30.3	Control - Treat Fruiting Plants	Strategy 2A	789.01	206.1	109.9	19.6	0.0	7.7	0.0
<i>Viburnum sieboldii</i>	Siebold's Viburnum	0.0	14.0	1.2	Eradicate	Strategy 2A	1118.35	14.0	0.0	0.0	0.0	0.0	0.0
<i>Wisteria floribunda</i>	Japanese Wisteria	9.1	12.2	1.1	Eradicate	Strategy 2A	1120.09	6.1	4.6	0.0	1.5	0.0	0.0
Total LOE						40							

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.

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 Friends of Hopewell Valley Open Space

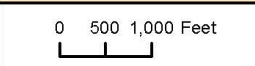


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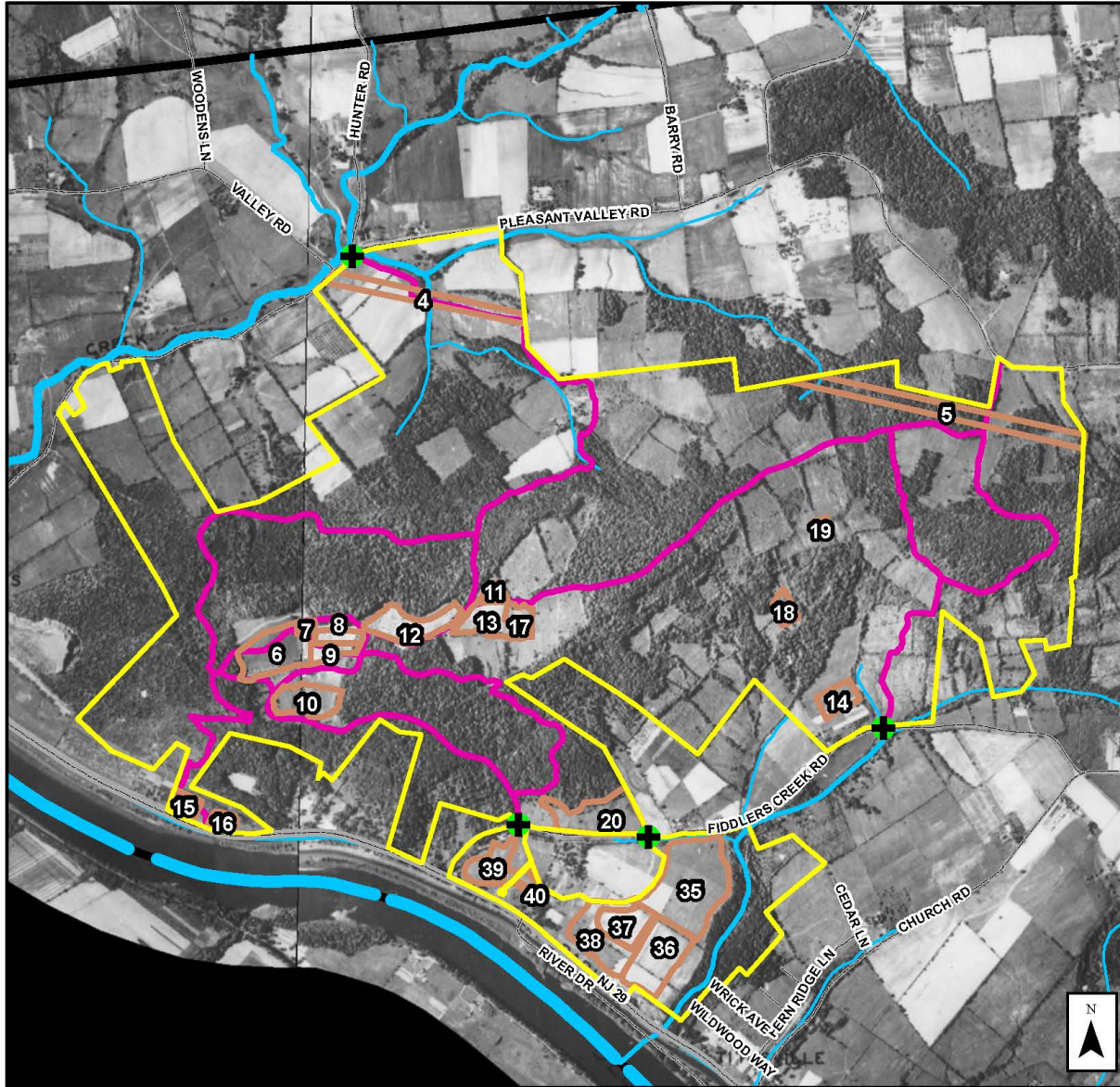
**Ted Stiles Preserve
 at Baldpate Mountain
 Map 1
 2007 Aerial Photography**

Legend

- Preserve Access Point
- FoHVO Preserves
- Early Successional Lands
- Trails



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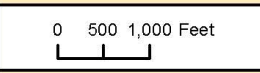


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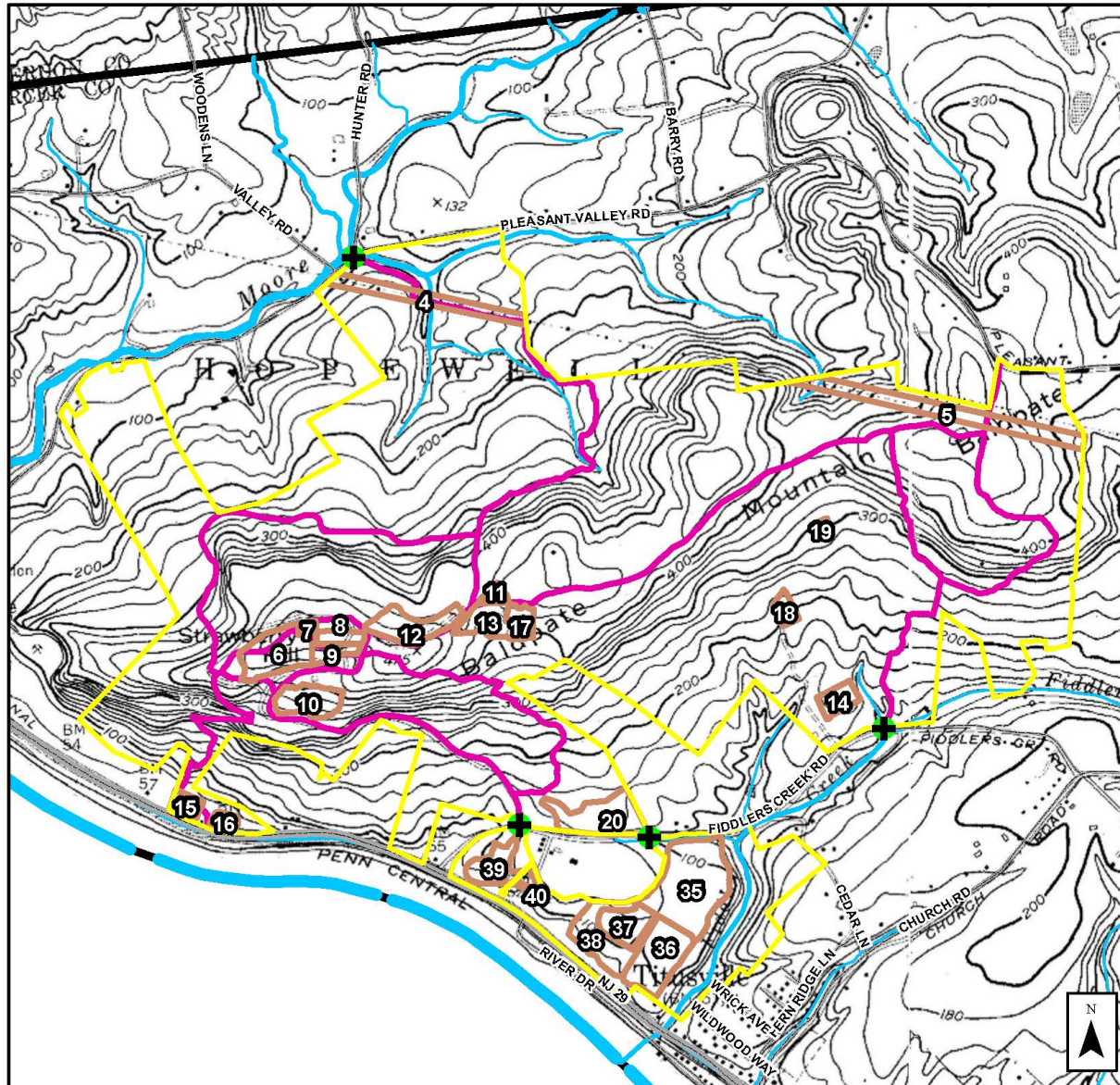
Ted Stiles Preserve
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 Map 2
 1930 Aerial Photography

Legend

-  Preserve Access Point
-  FoHVO Preserves
-  Early Successional Lands
-  Trails



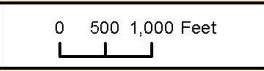
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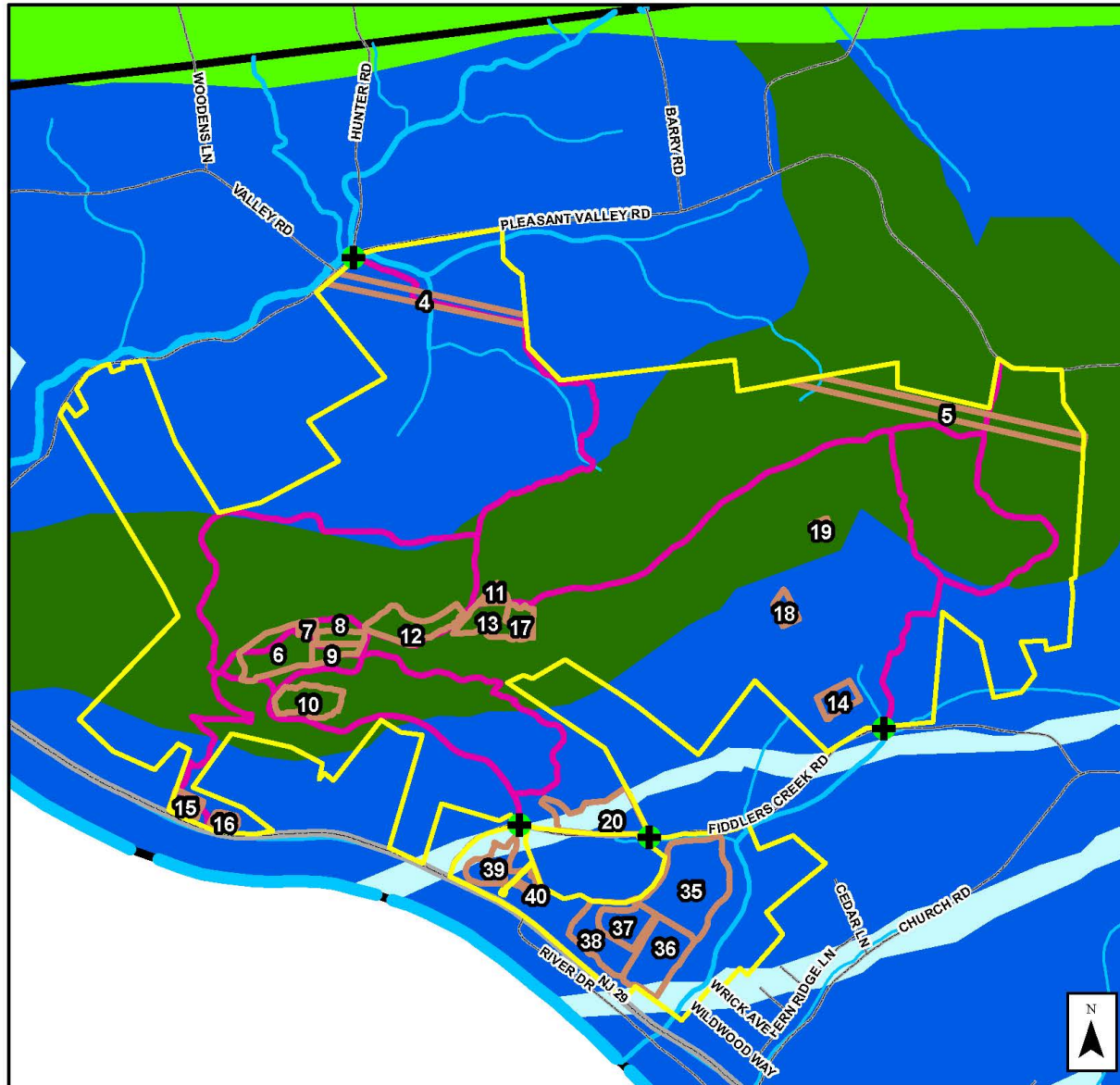
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 Community
 Stewardship Plan**

**Ted Stiles Preserve
 at Baldpate Mountain
 Map 3
 Topography**

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



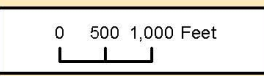
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 Friends of Hopewell Valley Open Space



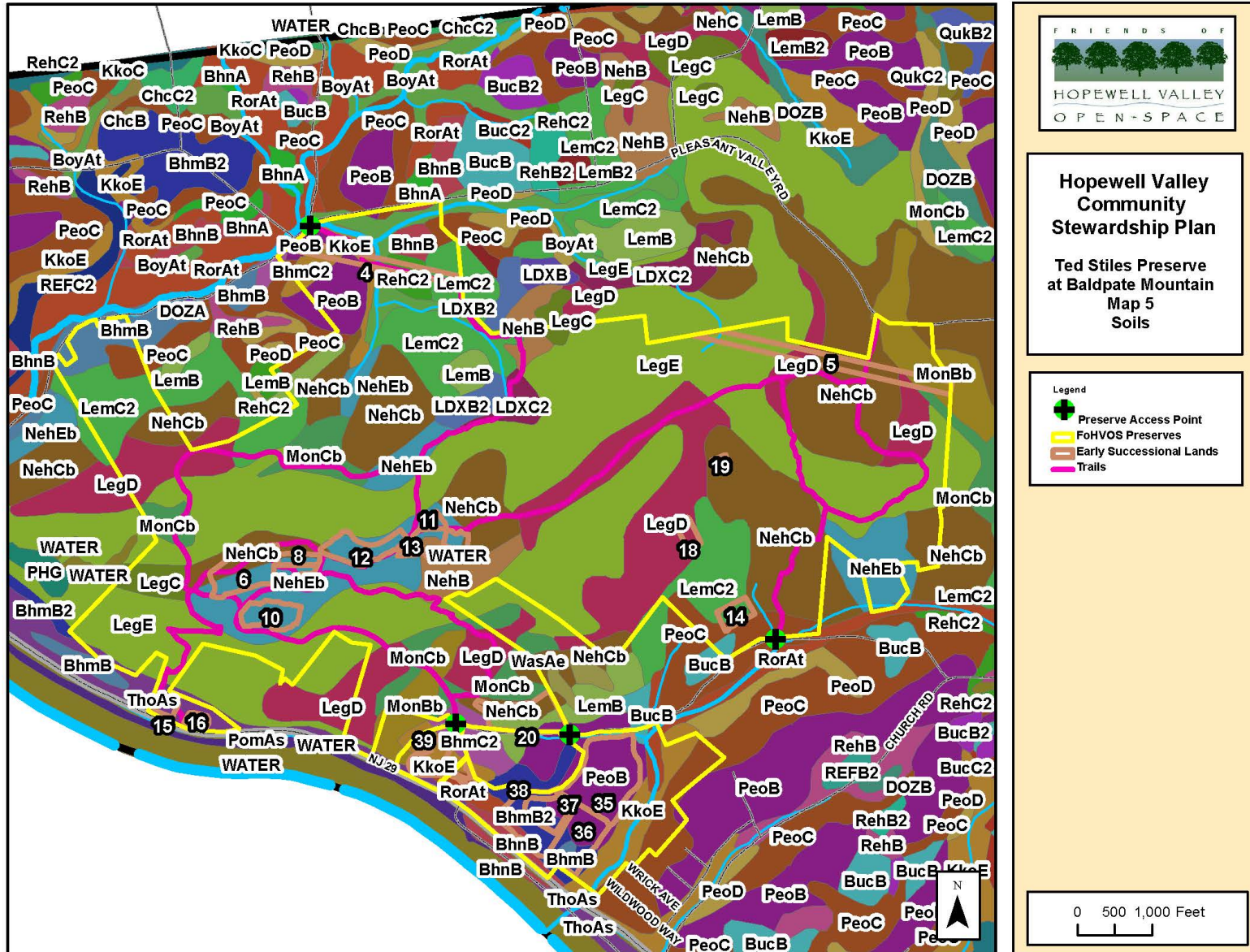
**Hopewell Valley
 Community
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**Ted Stiles Preserve
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 Map 4
 Bedrock Geology**

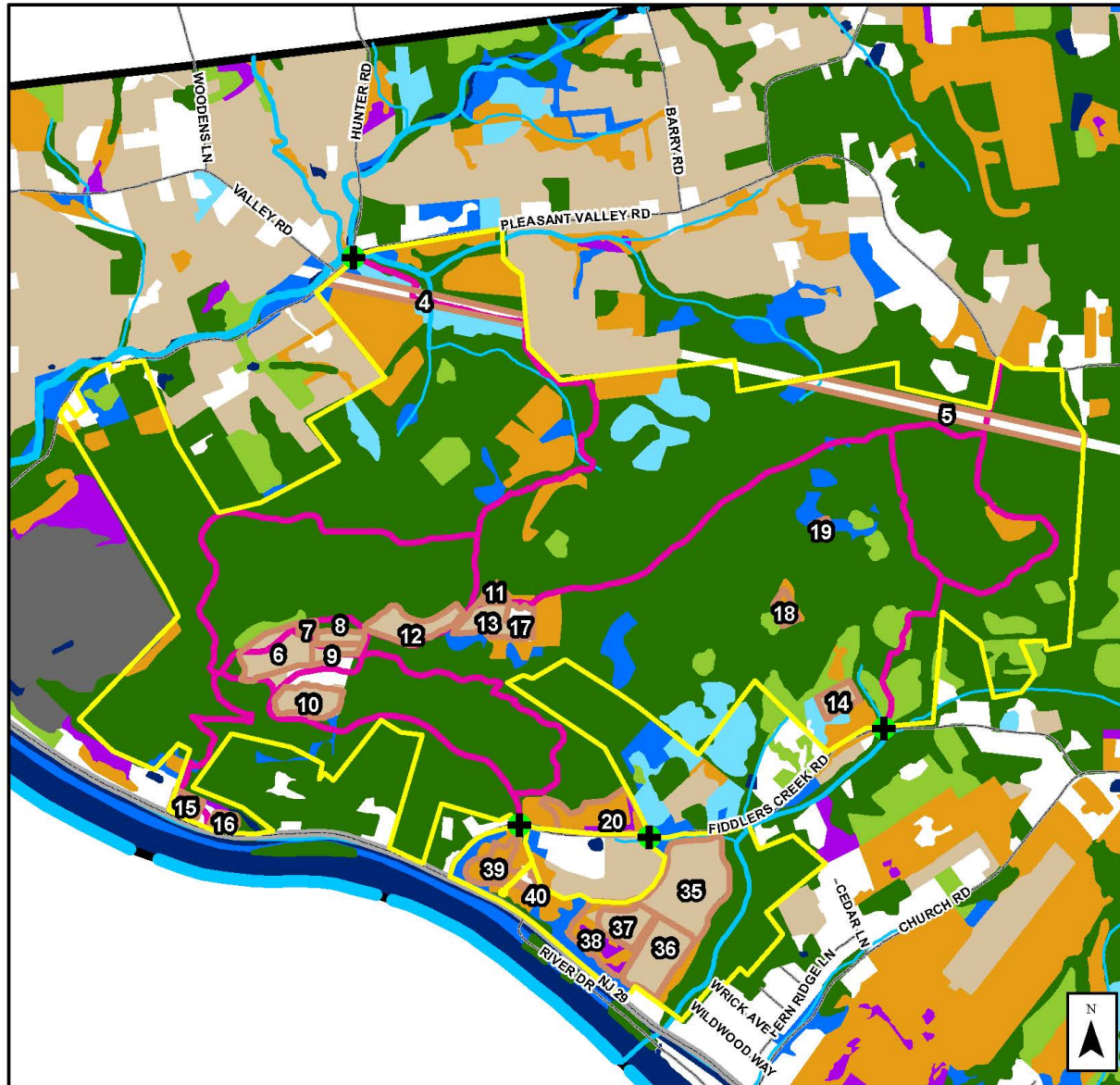
- Legend
- Preserve Access Point
 - FoHVOS Preserves
 - Early Successional Lands
 - Trails
- Bedrock Geology
- Jurassic Diabase
 - Lockatong Formation
 - Stockton Formation
 - Passaic Formation
 - Passaic Formation Gray bed



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 Friends of Hopewell Valley Open Space



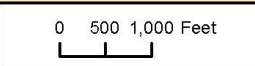
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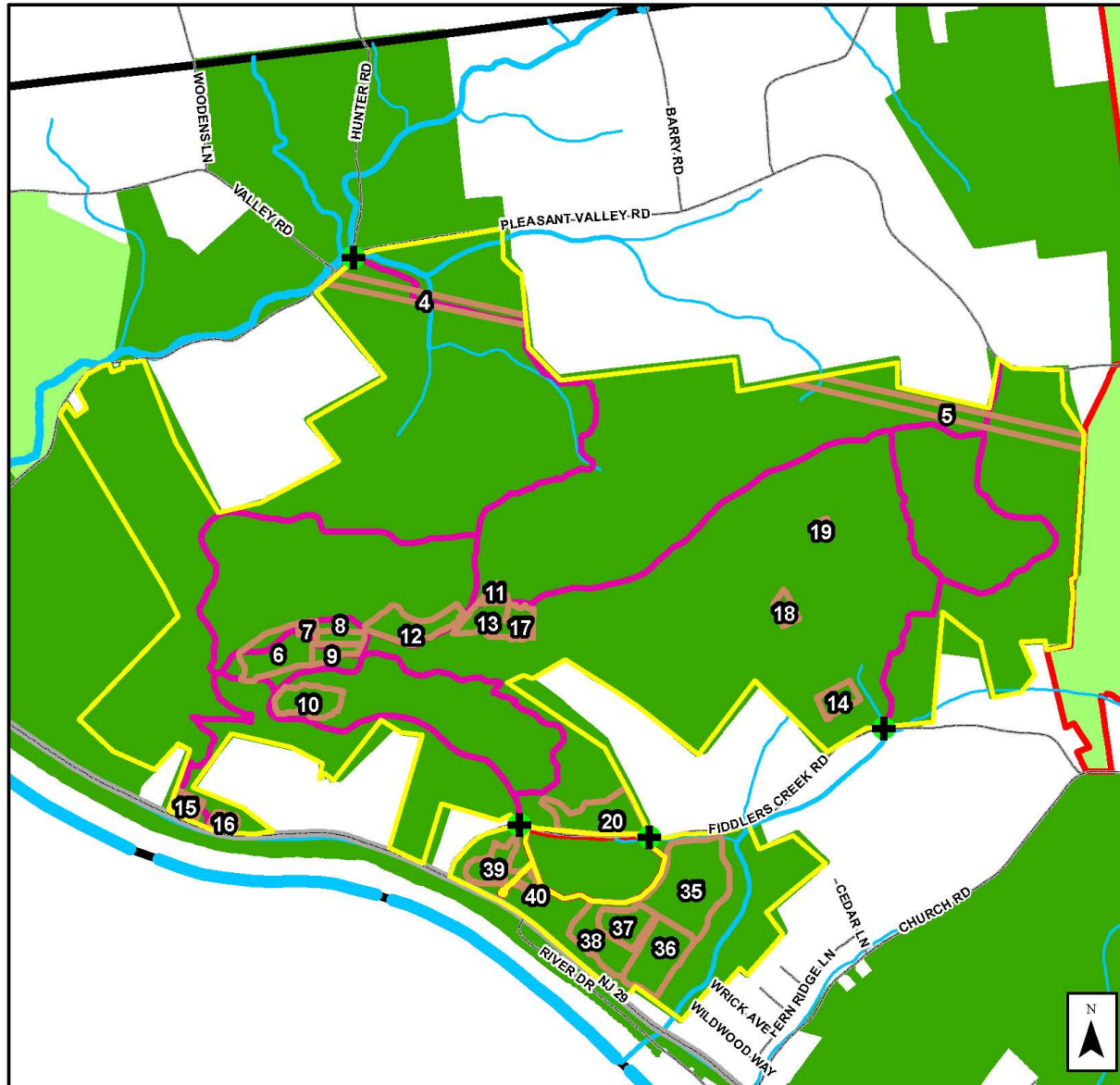
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Ted Stiles Preserve
 at Baldpate Mountain
 Map 6
 Land Cover Types (2007)

- 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



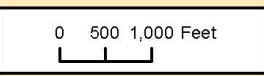
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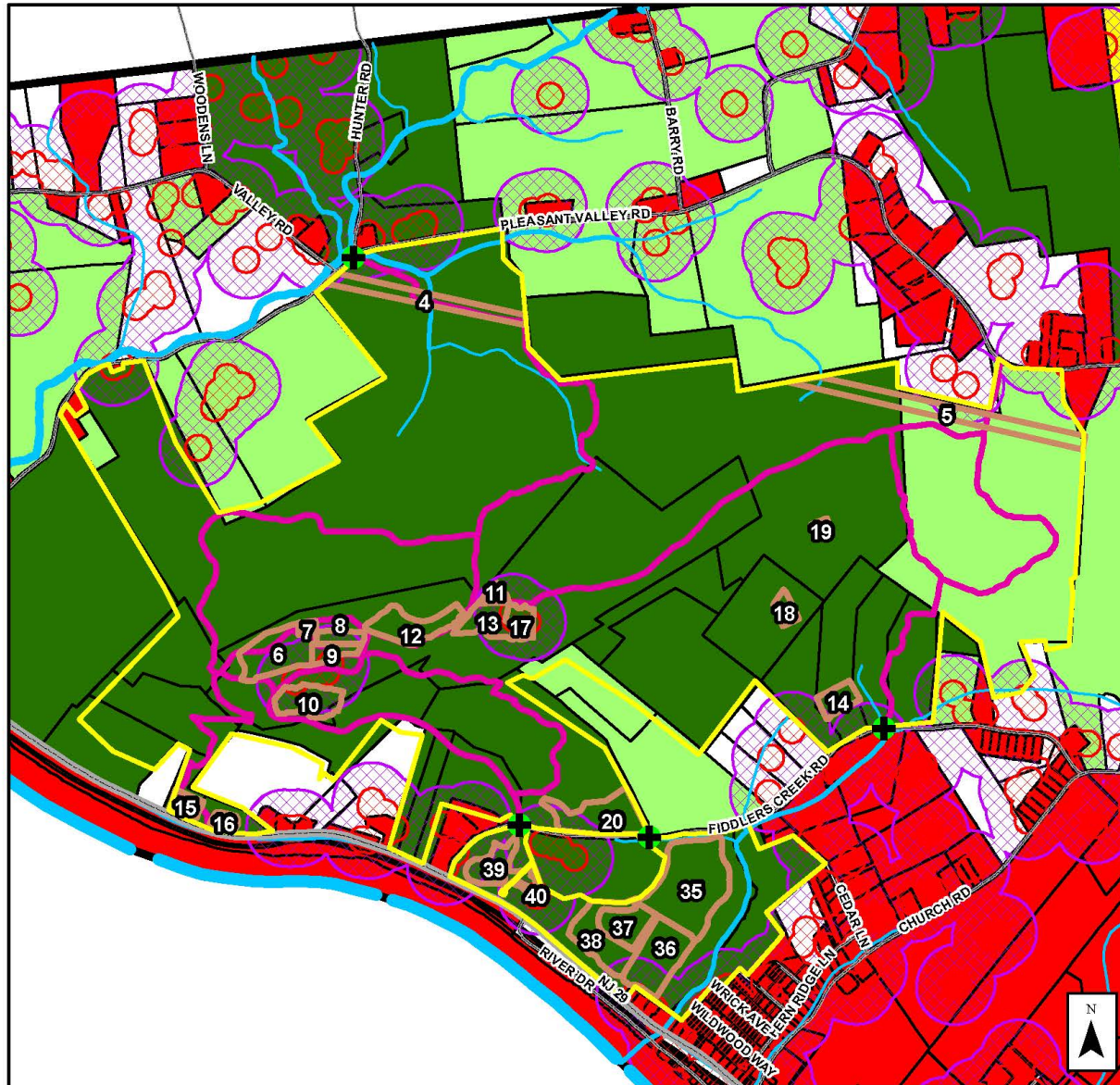
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 Community
 Stewardship Plan**

**Ted Stiles Preserve
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 Map 7
 Protected Lands**

- Legend
- Preserve Access Point
 - FoHVOS Preserves
 - Early Successional Lands
 - Trails
 - FoHVOS Easements
 - Public Lands
 - Private Easements



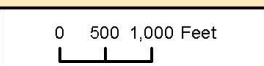
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 Friends of Hopewell Valley Open Space



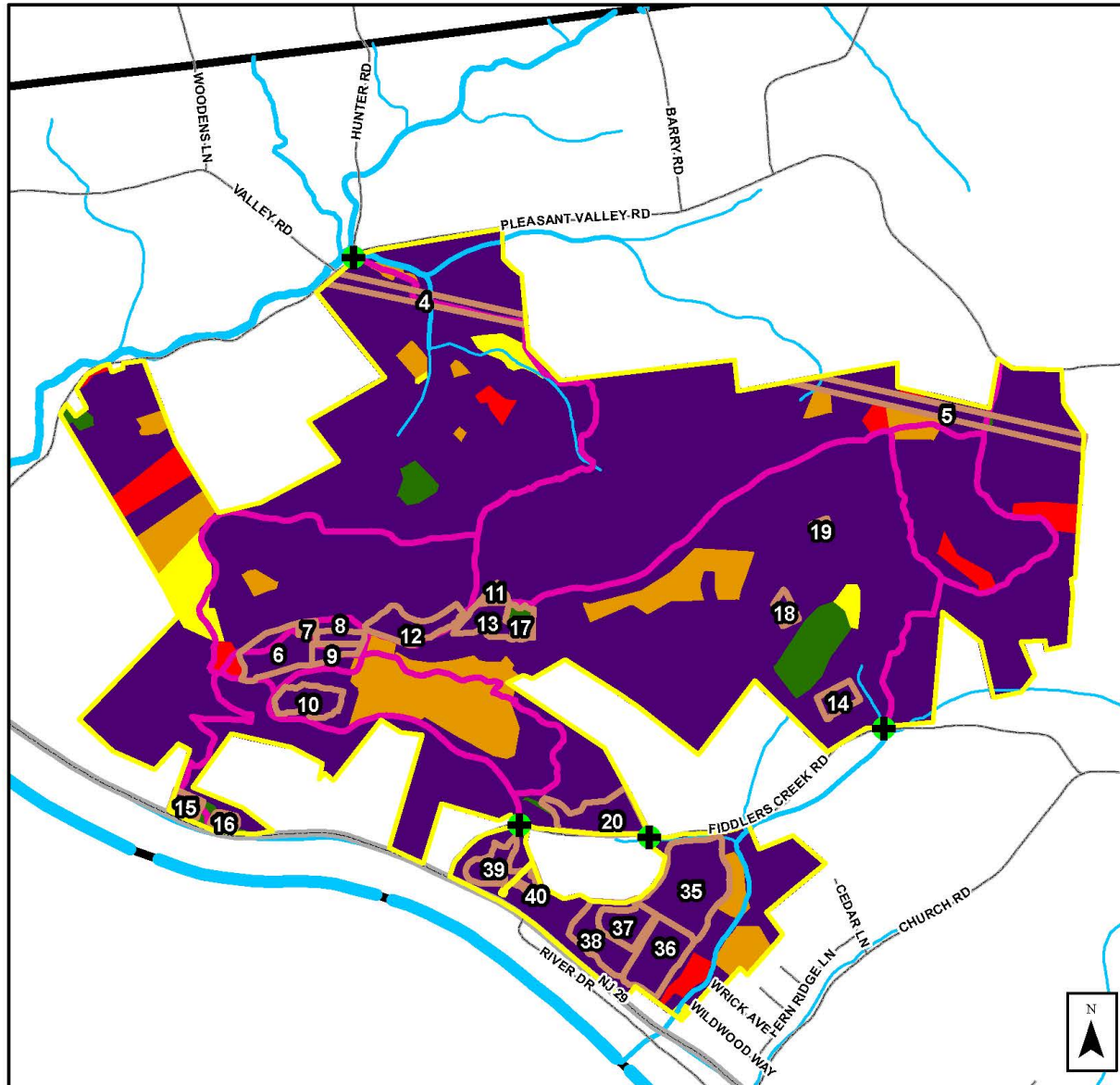
**Hopewell Valley
 Community
 Stewardship Plan**

**Ted Stiles Preserve
 at Baldpate Mountain
 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



Hopewell Valley Community Stewardship Plan
 Friends of Hopewell Valley Open Space



**Hopewell Valley
 Community
 Stewardship Plan**

**Ted Stiles Preserve
 at Baldpate Mountain
 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)

