

ENVIRONMENTAL RESOURCE INVENTORY UPDATE

2015 ADDENDUM:

THREATENED AND ENDANGERED SPECIES

for

Township of Stillwater

County of Sussex



Compiled by



**The Land Conservancy
of New Jersey**
An accredited land trust

with



**Stillwater Township
Environmental
Commission**

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ENVIRONMENTAL RESOURCE INVENTORY UPDATE 2015 Addendum: Threatened and Endangered Species

for

Township of Stillwater County of Sussex

Prepared for: Township of Stillwater Environmental Commission

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TABLE OF CONTENTS

Threatened and Endangered Species	1
Natural Heritage Program	1
Plants and Associated Habitats	1
Natural Heritage Priority Sites	1
Wildlife Species and Insects	7

Tables

Table 1. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	4
Table 2. Critical Species Habitat in Stillwater Township	8
Table 3. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Landscape Project 3.1 Species Based Patches and Stream Habitat Files	9

Maps	12
-------------------	----

Map 1. Arctic Meadows Natural Heritage Priority Site	
Map 2. Emmens Station Natural Heritage Priority Site	
Map 3. Kittatinny Cliffs and Talus Natural Heritage Priority Site	
Map 4. Shuster Pond Natural Heritage Priority Site	
Map 5. Stillwater Ridge Natural Heritage Priority Site	
Map 6. Swartswood Lake Natural Heritage Priority Site	
Map 7. Swartswood Sinkhole Ponds Natural Heritage Priority Site	

THREATENED AND ENDANGERED SPECIES

Natural Heritage Program

Stillwater Township submitted a request to the New Jersey Department of Environmental Protection (NJDEP) Natural Heritage Program for rare species information in the Township. Received on March 31, 2015, the Natural Heritage Program searched the Landscape Project (Version 3.1) habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat for the Township and within the immediate vicinity (within ¼ mile) of the Township. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be present in the Township and within ¼ mile of the Township. A detailed report was provided by the Natural Heritage Program for each category. The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities.

Plants and Associated Habitats

Natural Heritage Priority Sites

Seven NHP sites lie within Stillwater Township. The Arctic Meadows site, located on the northwest border with Walpack Township, hosts an inland acidic seep habitat and deciduous forest that are home to the globally imperiled Appalachian mountain boltonia. (*Map 1. Arctic Meadows Natural Heritage Priority Site*) The Emmens Station site, located on the southeast border with Fredon Township, includes rare upland and wetland habitats that are home to several State Endangered plant species. (*Map 2. Emmens Station Natural Heritage Priority Site*) The Kittatinny Cliffs and Talus site, also located along the border with Walpack Township, features an unusually cool, forested microclimate where winter ice often persists into the summer and several State Endangered plant species are found. (*Map 3. Kittatinny Cliffs and Talus Natural Heritage Priority Site*) The Shuster Pond site, located on the southwest border with Hardwick Township, contains a mature forest with limestone sinkholes and ponds that provide habitat for several State Endangered plant species. (*Map 4. Shuster Pond Natural Heritage Priority Site*) The Stillwater Ridge site, located near the southern corner of the Township, features a forest karst landscape and a globally imperiled natural ecosystem community. (*Map 5. Stillwater Ridge Natural Heritage Priority Site*) The Swartswood Lake site, located on the eastern border with Hampton Township, features a large lake and adjacent wetland and upland habitats which are host to several State Endangered plant species. (*Map 6. Swartswood Lake Natural Heritage Priority Site*) The Swartswood Sinkhole Ponds site, located on the eastern border with Hampton Township, hosts several globally rare wetlands ecosystem communities and several State Endangered plant species. (*Map 7. Swartswood Sinkhole Ponds Natural Heritage Priority Site*) As of 2007, NHP sites in Stillwater covered a total area of 1,916 acres, accounting for over 10 percent of the total land area in the Township.

According to a Natural Heritage Database search completed on March 31, 2015, the seven NHP sites within Stillwater are potentially home to 15 State Endangered vascular plant species, as well as six habitat types which support Endangered or Threatened plant species (*Table 1. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Natural*

Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database). This includes Appalachian mountain boltonia (*Boltonia Montana*) and its supporting habitat (*Boltonia asteroides* var. *asteroides* – *aster racemosus* – *menthe arvensis herbaceous vegetation*), both of which are considered to be critically imperiled on a global scale. This species has less than 20 documented locations in New Jersey and less than seven documented locations outside the state. Other State Endangered vascular plant species found on NHP sites within Stillwater Township include Puttyroot, Lobed spleenwort, Hammond's yellow spring beauty, Buttonbush dodder, Glade fern, Larger Canadian St. John's wort, Shrubby St. John's worst, Heartleaf twayblade, Common water-milfoil, American lotus, Illinois pondweed, White-stem pondwood, Eel-grass pondweed and Arum-leaf arrowhead. No federally-listed Threatened or Endangered plant species are known to be found within the Township. *Table 1* lists all threatened and endangered species which may be found within the NHP sites in Stillwater Township.

Table 1 includes four attributes used by NJDEP to identify the threatened and endangered species within NHP sites. These attributes characterize and rank endangered and threatened species and are explained in further depth below.

State Protection Status: Notes if a species is listed as State Endangered, with its survival threatened at the state or national level.

Regional Status: Notes if a species has listed as threatened or endangered by the Pinelands Commission (noted as *LP*) or Highlands Water Protection and Planning Act (noted as *HL*).

G-Rank: Ranks the species importance and rarity on a global scale. NJDEP defines the individual ranks as follows:

- **G1** - Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- **G2** - Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
- **G3** - Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; with the number of occurrences in the range of 21 to 100.
- **G4** - Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- **G5** - Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- **GU** - Possibly in peril range-wide but status uncertain; more information needed.
- **T** - Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently from the full species. For example, *Stachys palustris* var. *homotricha* is ranked "G5T? SH", meaning that the full species is globally secure but the global rarity

of the var. homotricha has not been determined; in New Jersey the variety is ranked as historic.

- **Q** - Elements containing a "Q" indicates that the taxon is of questionable, or uncertain taxonomic standing, e.g. some authors regard it as a full species, while others treat it at the subspecific level.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, G1G3).

S-Rank: Ranks the species' importance and rarity within New Jersey. NJDEP defines the individual ranks as follows:

- **S1** - Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.
- **S2** - Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.
- **S3** - Rare in state with 21 to 100 occurrences (plant species and ecological communities in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.
- **S4** - Apparently secure in state, with many occurrences.
- **S5** - Demonstrably secure in state and essentially ineradicable under present conditions.
- **.1** - Elements only ever documented from a single location.
- **B** - Refers to the breeding population of the element in the state.
- **N** - Refers to the non-breeding population of the element in the state.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., S2?). A range is indicated by combining two ranks (e.g., S1S2, S1S3).

Table 1. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database							
Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
Vascular Plants							
<i>Aplectrum hyemale</i>	Puttyroot	Endangered	LP, HL	G5	S1	Yes	NA
<i>Asplenium pinnatifidum</i>	Lobed Spleenwort	Endangered	LP, HL	G4	S1	Yes	NA
<i>Aster tradescantii</i>	Tradescant's Aster		HL	G4Q	S2	Yes	NA
<i>Boltonia montana</i>	Appalachian Mountain Boltonia	Endangered	LP, HL	G1G2	S2	Yes	NA
<i>Carex bebbii</i>	Bebb's Sedge		HL	G5	S2	Yes	NA
<i>Carex cryptolepis</i>	Small Yellow Sedge		HL	G4	S2	Yes	NA
<i>Carex eburnea</i>	Ebony Sedge		HL	G5	S2	Yes	NA
<i>Carex hitchcockiana</i>	Hitchcock's Sedge		HL	G5	S2	Yes	NA
<i>Carex retrorsa</i>	Retorse Sedge		HL	G5	S2	Yes	NA
<i>Carex typhina</i>	Cat-tail Sedge		HL	G5	S3	Yes	NA
<i>Carex utriculata</i>	Bottle-shaped Sedge		HL	G5	S2		NA
<i>Carex viridula ssp.</i>	Green Sedge		HL	G5T5	S2	Yes	NA
<i>Castilleja coccinea</i>	Scarlet Indian-paintbrush		HL	G5	S2		NA
<i>Cerastium arvense</i> var. <i>villosissimum</i>	Octoraro Creek Chickweed		HL	G5T1	S1	Yes	NA
<i>Claytonia virginica</i> var. <i>hammondiae</i>	Hammond's Yellow Spring Beauty	Endangered	LP, HL	G5T1	S1.1	Yes	NA
<i>Clematis occidentalis</i> var. <i>occidentalis</i>	Purple Clematis		HL	G5T5	S2	Yes	NA
<i>Crataegus chrysocarpa</i> var. <i>chrysocarpa</i>	Fireberry Hawthorne		HL	G5T5	S2	Yes	NA
<i>Cuscuta cephalanthi</i>	Buttonbush Dodder	Endangered	LP, HL	G5	S1	Yes	NA
<i>Deschampsia caespitosa</i>	Tufted Hair Grass		HL	G5	S3	Yes	NA
<i>Desmodium cuspidatum</i> var. <i>cuspidatum</i>	Toothed Tick-trefoil		HL	G5T5?	S2		NA

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Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
<i>Dizplazium pycnocarpon</i>	Glade Fern	Endangered	LP, HL	G5	S1		NA
<i>Eleocharis elliptica</i>	Elliptic Spike-rush		HL	G5	S2	Yes	NA
<i>Eragrostis frankii</i>	Frank's Love Grass		HL	G5	S2	Yes	NA
<i>Eriophorum viridicarinatum</i>	Thin-leaf Cotton-grass		HL	G5	S3	Yes	NA
<i>Galium trifidum</i> var. <i>trifidum</i>	Small Bedstraw		HL	G5T5	S2	Yes	NA
<i>Hypericum majus</i>	Larger Canadian St. John's Wort	Endangered	LP, HL	G5	S1	Yes	NA
<i>Hypericum proflicum</i>	Shrubby St. John's-wort	Endangered	LP, HL	G5	S1	Yes	NA
<i>Juncus brachycephalus</i>	Fen Rush		HL	G5	S3	Yes	NA
<i>Lemna trisulca</i>	Star Duckweed		HL	G5	S2	Yes	NA
<i>Listera cordata</i> var. <i>cordata</i>	Heartleaf Twayblade	Endangered	LP, HL	G5T5	S1	Yes	NA
<i>Myriophyllum sibiricum</i>	Common Water-milfoil	Endangered	LP, HL	G5	S1	Yes	NA
<i>Nelumbo lutea</i>	American Lotus	Endangered	LP, HL	G4	S1	Yes	NA
<i>Platanthera flava</i> var. <i>herbiola</i>	Tubercled Rein Orchid		HL	G4?T4Q	S2	Yes	NA
<i>Potamogeton illinoensis</i>	Illinois Pondweed	Endangered	LP, HL	G5	S1	Yes	NA
<i>Potamogeton praelongus</i>	White-stem Pondweed	Endangered	LP, HL	G5	S1	Yes	NA
<i>Potamogeton robbinsii</i>	Robbin's Pondweed		HL	G5	S2	Yes	NA
<i>Potamogeton zosteriformis</i>	Eel-grass Pondweed	Endangered	LP, HL	G5	S1	Yes	NA
<i>Ranunculus flabellaris</i>	Yellow Water Buttercup		HL	G5	S3	Yes	NA
<i>Ranunculus longirostris</i>	Long-break Water Buttercup		HL	G5	S2	Yes	NA
<i>Ranunculus trichophyllus</i> var. <i>trichophyllus</i>	Thread-leaf Water Buttercup		HL	G5	S2	Yes	NA
<i>Sagittaria cuneata</i>	Arum-leaf Arrowhead	Endangered	LP, HL	G5	S1	Yes	NA
<i>Schoenoplectus acutus</i> var. <i>acutus</i>	Hard-stem Bulrush		HL	G5T5	S3	Yes	NA

Table 1. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database							
Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
<i>Solidago speciosa</i> var. <i>speciosa</i>	Showy Goldenrod		HL	G5T5	S2	Yes	NA
<i>Solidago squarrosa</i>	Stout Ragged Goldenrod		HL	G4?	S2	Yes	NA
<i>Sorbus americana</i>	American Mountain-ash		HL	G5	S2	Yes	NA
<i>Taxus canadensis</i>	American Yew		HL	G5	S2	Yes	NA
<i>Waldsteinia fragarioides</i> var. <i>fragarioides</i>	Barren-strawberry		HL	G5T5	S2	Yes	NA
Non-vascular plants							
<i>Sphagnum capillifolium</i>	Sphagnum		HL	G5	S2	Yes	NA
<i>Sphagnum fuscum</i>	Sphagnum		HL	G5	S2	Yes	NA
<i>Sphagnum squarrosum</i>	Sphagnum		HL	G5	S2	Yes	NA
<i>Sphagnum teres</i>	Sphagnum		HL	G5	S2	Yes	NA
Terrestrial Community – Other Classification							
Boltonia asteroids var. asteroids – aster racemosus – menthe arvensis herbaceous vegetation	Aster-like Boltonia – Small-headed Aster – Field Mint Herbaceous Vegetation			G1G2	S1S2	Yes	NA
Cave aquatic community	Cave Aquatic Community			G4?	S2	Yes	NA
Cave terrestrial community	Cave Terrestrial Community			G4?	S2	Yes	NA
Dry-mesic calcareous forest	Dry-mesic calcareous forest			G3G4	S2?		NA
Inland acidic seep community	Inland Acidic Seep Community			G3?	S1	Yes	NA
Talus slope community	Talus Slope Community			G4?	S2S3		NA
<i>Source: New Jersey Department of Environmental Protection. Natural Heritage Database search, March 31, 2015</i>							

Wildlife Species and Insects

Much of Stillwater Township may also provide habitat that is suitable for threatened or endangered animal and insect species. According to the NJDEP Landscape Project, Stillwater contains habitat patches of all ranks. *Table 2. Critical Species Habitat in Stillwater Township* presents a summary of habitat patches within Stillwater Township. The majority of Stillwater has been identified as Rank 4 (76%), state endangered species habitat that primarily covers all parts of the Township. There is a small portion (2%) of land designated Rank 5 for Federally Endangered Species in three clustered areas in the central part of the Township. Rank 3 (7%) designated land consists of small patches of land throughout the Township. Ranks 2 and 1 designated for species of state special concern and land suitable for endangered/threatened/special concern species take up 7% of the Township and can be found primarily in the southern part of the township close to Swartswood Lake and south of the Paulins Kill. Rank 0, which is land with no species occurrences and without suitable habitat, makes up 7.5% of Stillwater Township.

The Landscape Project (*Version 3.1 2012*) ranks patched of habitat using a numeric system (0 through 5), for the purpose of identifying habitat which may be suitable for threatened and endangered animal and insect species. Habitat identified as Ranks 3 through 5 are considered environmentally significant by the NJDEP. The following is a description of each rank:

Rank 5 is assigned to species-specific patches containing one or more occurrences of wildlife listed as endangered and threatened pursuant to the Federal Endangered Species Act of 1973.

Rank 4 is assigned to species-specific patches with one or more occurrences of State Endangered Species.

Rank 3 is assigned to species-specific patches containing one or more occurrences of State Threatened Species.

Rank 2 is assigned to species-specific patches containing one or more occurrences of species considered to be species of special concern.

Rank 1 is assigned to species-specific patches that meet habitat-specific suitability requirements such as minimum size criteria for endangered, threatened or priority wildlife species, but that do not intersect with any confirmed occurrences of such species.

Rank 0 is assigned to species-specific patches that do not contain any species occurrences and do not meet any habitat-specific suitability requirements.

Table 2. Critical Species Habitat in Stillwater Township		
<i>Rank</i>	<i>Acres</i>	<i>Percent</i>
0	1,351.05	7.5%
1	248.07	1.4%
2	1,062.27	5.9%
3	1,304.07	7.2%
4	13,800.06	76.4%
5	300.97	1.7%
Total	18,066.49	100.0%
<i>Source: NJDEP Landscape Project Version 3.1 (2012)</i>		

Stillwater is home to a wide array of wildlife including endangered and threatened species listed on both state and federal registers. The Bog Turtle, a federally-listed Threatened Species, occupies fens, bogs and wet meadows in the Township of Stillwater. There are seven state listed Endangered Species that inhabit Stillwater, the Bald Eagle, Bobcat, Blue-spotted Salamander, Golden-winged Warbler, Northern Goshawk, Red-shouldered Hawk, and Timber Rattlesnake. In addition there are also 11 State Threatened Species and an additional 33 species are listed in the state as being of Special Concern. A full list of these species can be found in .

Table 3. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Landscape Project 3.1 Species Based Patches and Stream Habitat Files							
Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
Amphibia							
<i>Ambystoma jeffersonianum</i>	Jefferson Salamander	Special Concern	NA	G4	S3	NA	2
<i>Ambystoma laterale</i>	Blue-spotted Salamander	Endangered	NA	G5	S1	NA	4
<i>Ambystoma opacum</i>	Marbled Salamander	Special Concern	NA	G5	S3	NA	2
<i>Eurycea longicauda longicauda</i>	Longtail Salamander	Threatened	NA	G5T5	S2	NA	3
Aves							
<i>Accipiter cooperii</i>	Cooper's Hawk	Special Concern	NA	G5	S3B, S4N	NA	2
<i>Accipiter gentilis</i>	Northern Goshawk	Endangered	NA	G5	S1B, S3N	NA	4
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	Threatened	NA	G5	S2B, S3N	NA	3
<i>Ardea herodias</i>	Great Blue Heron	Special Concern	NA	G5	S3B, S4N	NA	2
<i>Buteo lineatus</i>	Red-shouldered Hawk	Endangered	NA	G5	S1B, S3N	NA	4
<i>Catharus fuscescens</i>	Veery	Special Concern	NA	G5	S3B	NA	2
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	Special Concern	NA	G5	S3B	NA	2
<i>Dendroica caerulescens</i>	Black-throated Blue Warbler	Special Concern	NA	G5	S3B	NA	2
<i>Dendroica cerulea</i>	Cerulean Warbler	Special Concern	NA	G4	S3B, S3N	NA	2
<i>Dendroica fusca</i>	Blackburnian Warbler	Special Concern	NA	G5	S3B	NA	2
<i>Dendroica virens</i>	Black-throated Green Warbler	Special Concern	NA	G5	S3B	NA	2
<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	NA	G5	S2B, S3N	NA	3
<i>Empidonax minimus</i>	Least Flycatcher	Special Concern	NA	G5	S3B	NA	2
<i>Falco sparverius</i>	American Kestrel	Threatened	NA	G5	S2B, S2N	NA	3
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Endangered	NA	G5	S1B, S2N	NA	4
<i>Helminthos vermivorum</i>	Worm-eating Warbler	Special Concern	NA	G5	S3B	NA	2
<i>Hylocichla mustelina</i>	Wood Thrush	Special Concern	NA	G5	S3B	NA	2
<i>Melanerpes erythrocephalus</i>	Red-headed	Threatened	NA	G5	S2B, S2N	NA	3

Table 3. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Landscape Project 3.1 Species Based Patches and Stream Habitat Files

Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
	Woodpecker						
<i>Oporornis formosus</i>	Kentucky Warbler	Special Concern	NA	G5	S3B, S3N	NA	2
<i>Parula americana</i>	Northern Parula	Special Concern	NA	G5	S3B	NA	2
<i>Passerculus sandwichensis</i>	Savannah Sparrow	Threatened	NA	G5	S2B, S4N	NA	3
<i>Strix varia</i>	Barred Owl	Threatened	NA	G5	S2B, S2N	NA	3
<i>Sturnella magna</i>	Eastern Meadowlark	Special Concern	NA	G5	S3B, S3N	NA	2
<i>Toxostoma rufum</i>	Brown Thrasher	Special Concern	NA	G5	S3B, S4N	NA	2
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	Endangered	NA	G4	S1B, S3N	NA	4
<i>Vireo solitarius</i>	Blue-headed Vireo (Solitary Vireo)	Special Concern	NA	G5	S3B	NA	2
<i>Wilsonia canadensis</i>	Canada Warbler	Special Concern	NA	G5	S3B	NA	2
<i>Wilsonia citrina</i>	Hooded Warbler	Special Concern	NA	G5	S3B	NA	2
Insecta							
<i>Boloria selene myrina</i>	A Silver-bordered Fritillary	Threatened	NA	G5T5	S2	NA	3
<i>Calephelis borealis</i>	Northern Metalmark	Special Concern	NA	G3G4	S3	NA	2
<i>Calopteryx amata</i>	Superb Jewelwing	State Threatened	NA	G4	S2	NA	3
<i>Cordulegaster erronea</i>	Tiger Spiketail	Special Concern	NA	G4	S3	NA	2
<i>Cordulegaster obliqua</i>	Arrowhead Spiketail	Special Concern	NA	G4	S3	NA	2
<i>Enallagma laterale</i>	New England Bluet	Special Concern	NA	G3G4	S3	NA	2
<i>Gomphus desertus</i>	Harpoon Clubtail	Threatened	NA	G4	S2	NA	3
<i>Gomphus quadricolor</i>	Rapids Clubtail	Special Concern	NA	G3G4	S3	NA	2
<i>Gomphus rogersi</i>	Sable Clubtail	Special Concern	NA	G4	S3	NA	2
<i>Gomphus septima</i>	Septima's Clubtail	Special Concern	NA	G2	S3	NA	2
<i>Gomphus vastus</i>	Cobra Clubtail	Special Concern	NA	G5	S3	NA	2
<i>Gomphus viridifrons</i>	Green-faced Clubtail	Special Concern	NA	G3G4	S3	NA	2

Table 3. Possibly on or Within the Immediate Vicinity of Stillwater Township Based on Search of Landscape Project 3.1 Species Based Patches and Stream Habitat Files							
Scientific Name	Common Name	State Protection Status	Regional Status	G-Rank	S-Rank	Identified	Landscape Project Rank
<i>Leucorrhinia glacialis</i>	Crimson-ringed Whiteface	Special Concern	NA	G5	S3	NA	2
<i>Leucorrhinia hudsonica</i>	Hudsonian Whiteface	Special Concern	NA	G5	S3	NA	2
<i>Ophiogomphus aspersus</i>	Brook Snaketail	Threatened	NA	G4	S2	NA	3
<i>Ophiogomphus mainensis</i>	Maine Snaketail	Special Concern	NA	G4	S3	NA	2
<i>Rhionaeschna mutata</i>	Spatterdock Darner	Special Concern	NA	G4	S3	NA	2
<i>Somatochlora williamsoni</i>	Williamson's Emerald	Special Concern	NA	G5	S3	NA	2
Mammalia							
<i>Lynx rufus</i>	Bobcat	Endangered	NA	G5	S1	NA	4
Mollusca							
<i>Alasmodonta undulata</i>	Triangle Floater	Threatened	NA	G4	S2	NA	3
<i>Strophitus undulatus</i>	Creeper	Special Concern	NA	G5	S3	NA	2
Reptilia							
<i>Agkistrodon contortrix mokasen</i>	Northern Copperhead	Special Concern	NA	G5T5	S3	NA	2
<i>Crotalus horridus horridus</i>	Timber Rattlesnake	Endangered	NA	G4T4	S1	NA	4
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	NA	G4	S2	NA	3
<i>Glyptemys muhlenbergii</i>	Bog Turtle	Endangered	NA	G3	S1	NA	5
<i>Terrapene carolina carolina</i>	Eastern Box Turtle	Special Concern	NA	G5T5	S3	NA	2
Source: New Jersey Department of Environmental Protection Landscape Project Version 3.1							

MAPS

Map 1. Arctic Meadows Natural Heritage Priority Site

Map 2. Emmens Station Natural Heritage Priority Site

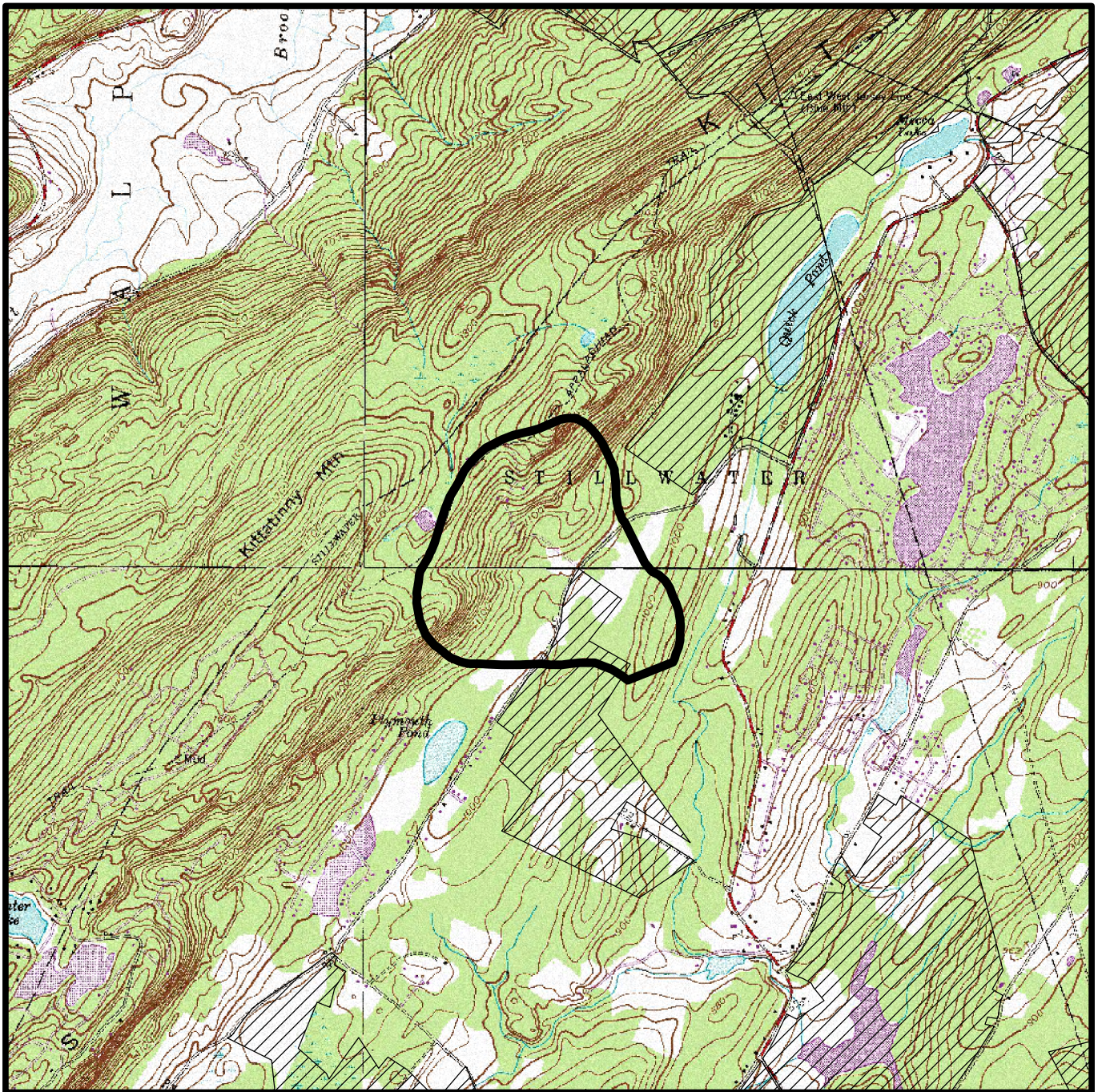
Map 3. Kittatinny Cliffs and Talus Natural Heritage Priority Site

Map 4. Shuster Pond Natural Heritage Priority Site

Map 5. Stillwater Ridge Natural Heritage Priority Site

Map 6. Swartswood Lake Natural Heritage Priority Site

Map 7. Swartswood Sinkhole Ponds Natural Heritage Priority Site



Natural Heritage Priority Site

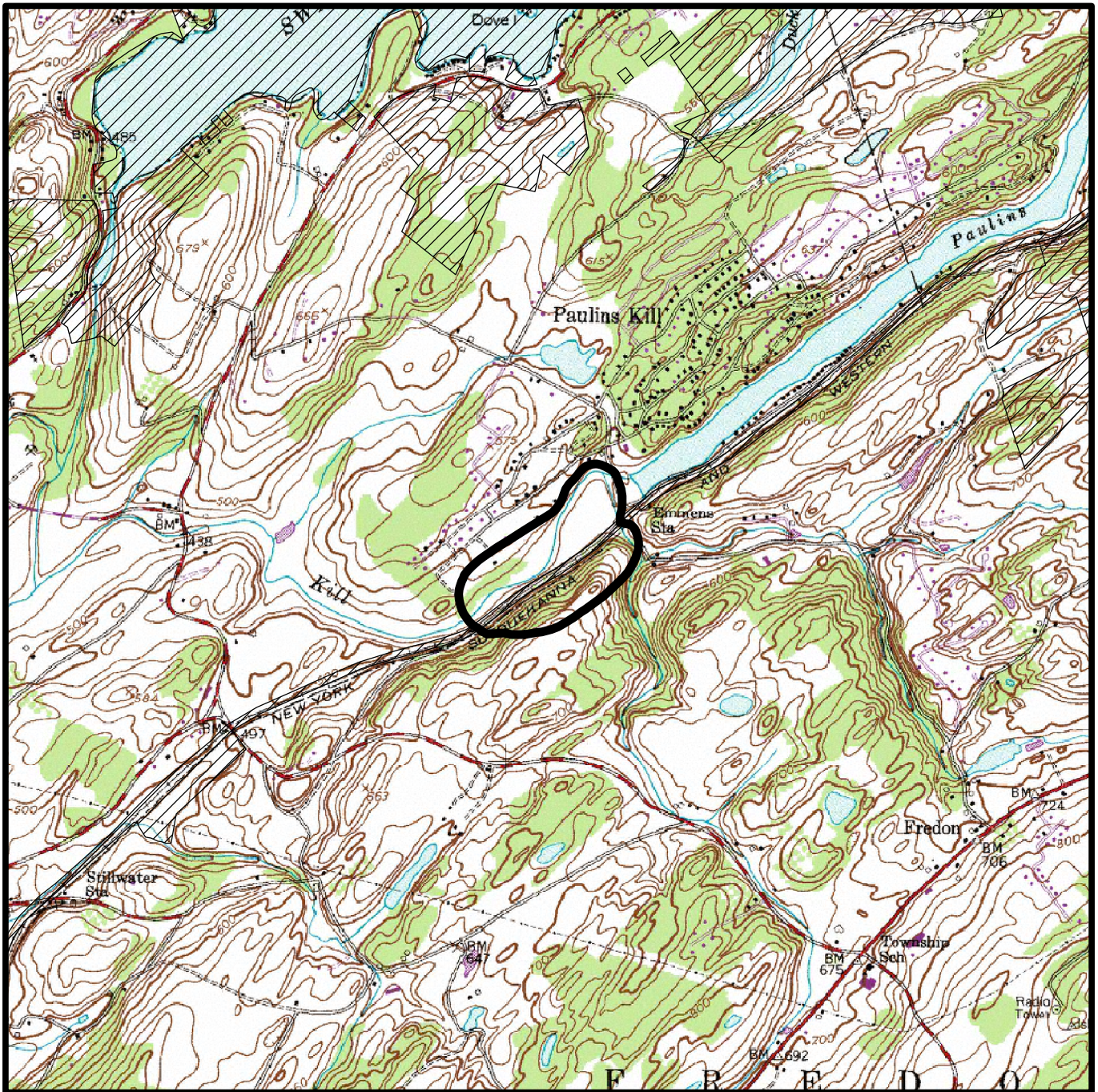
Arctic Meadows

Sussex County



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Natural Lands Management





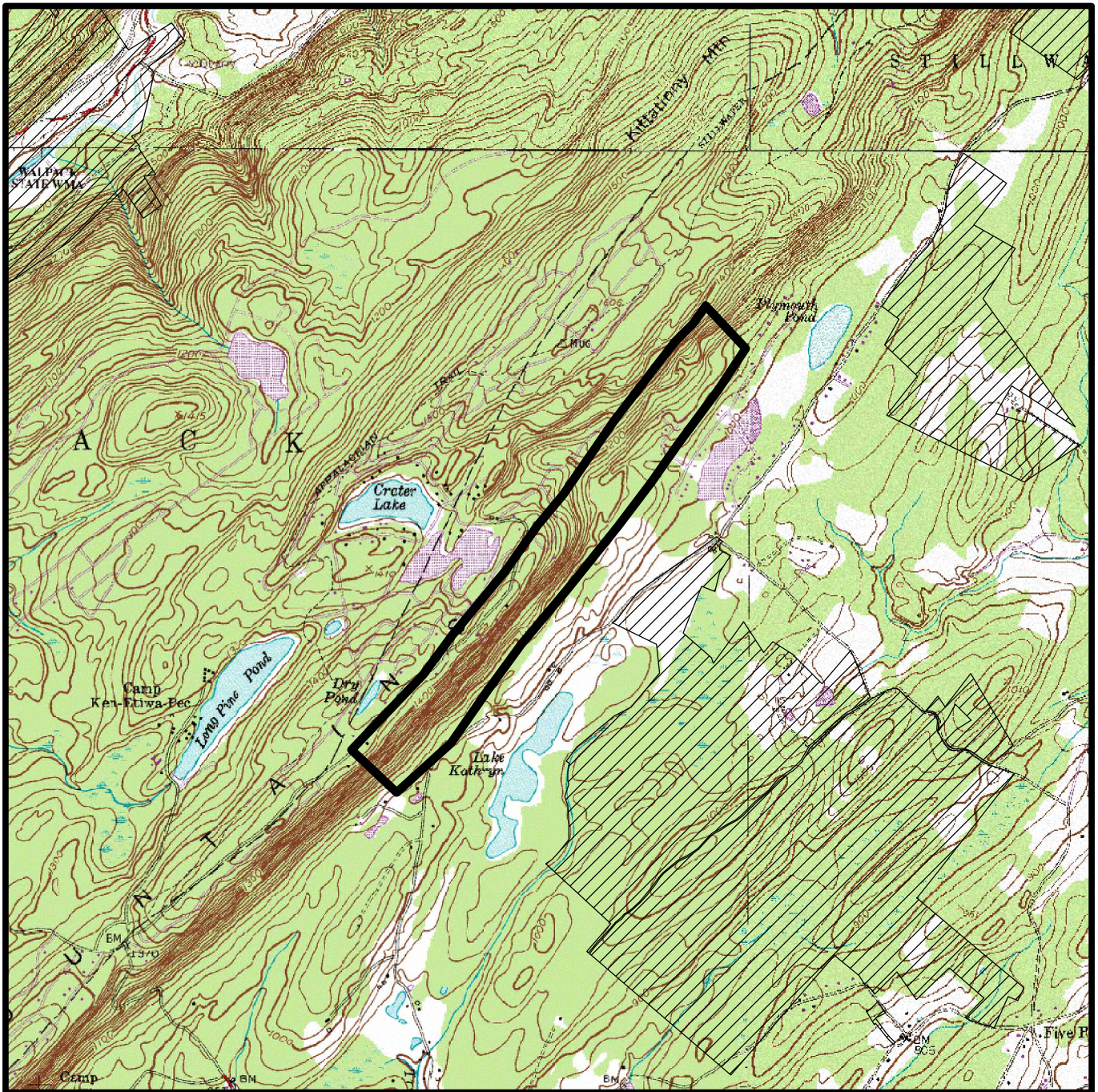
Natural Heritage Priority Site
Emmens Station Site
Sussex County



NJ Department of Environmental Protection
Division of Parks and Forestry
Natural Lands Management



 Priority Sites
 Public Land



Natural Heritage Priority Site
Kittatinny Cliffs and Talus
Sussex County



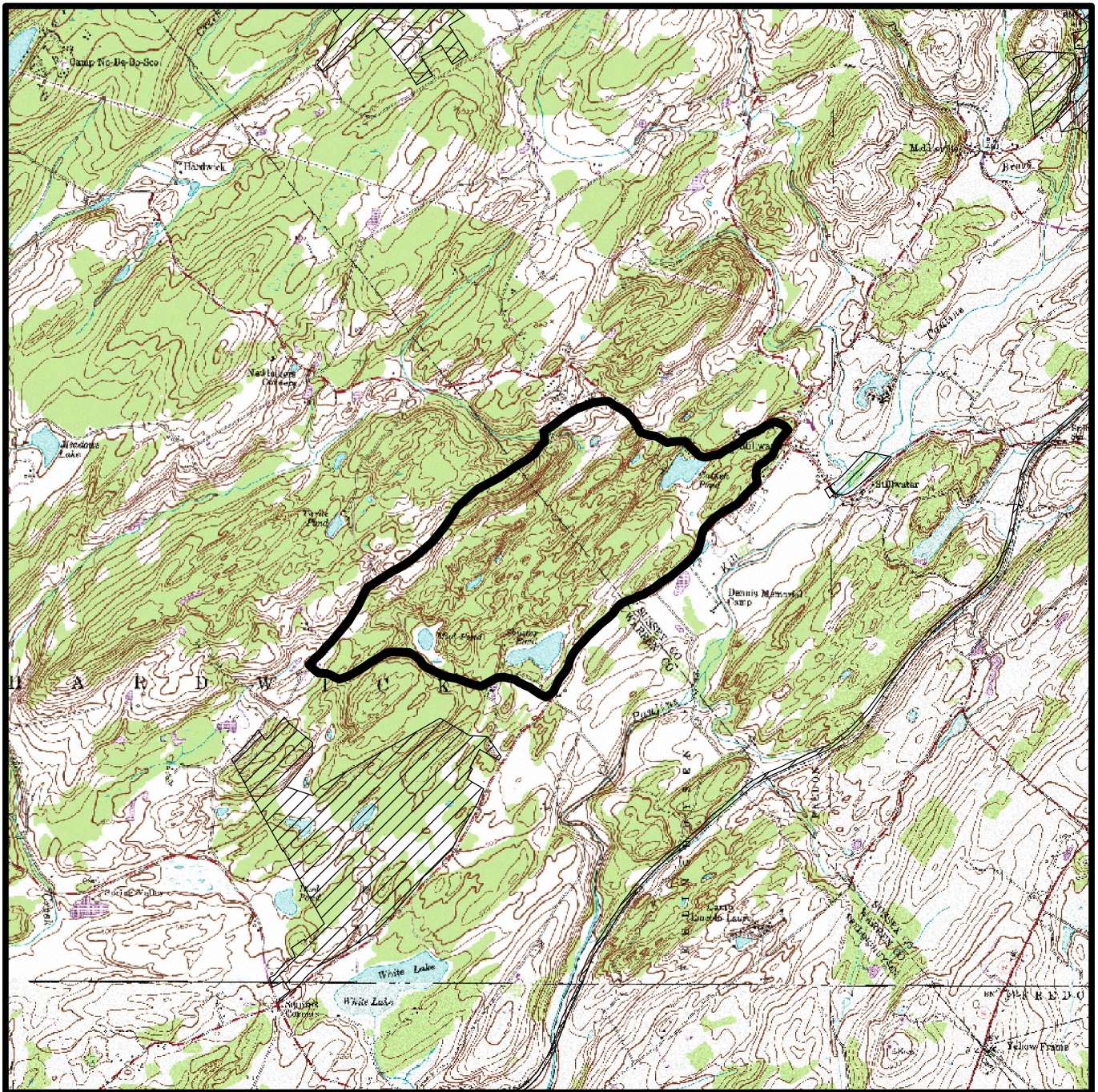
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Natural Lands Management



Priority Sites

Public Land



Natural Heritage Priority Site

Shuster Pond

Sussex and Warren Counties



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Division of Parks and Forestry

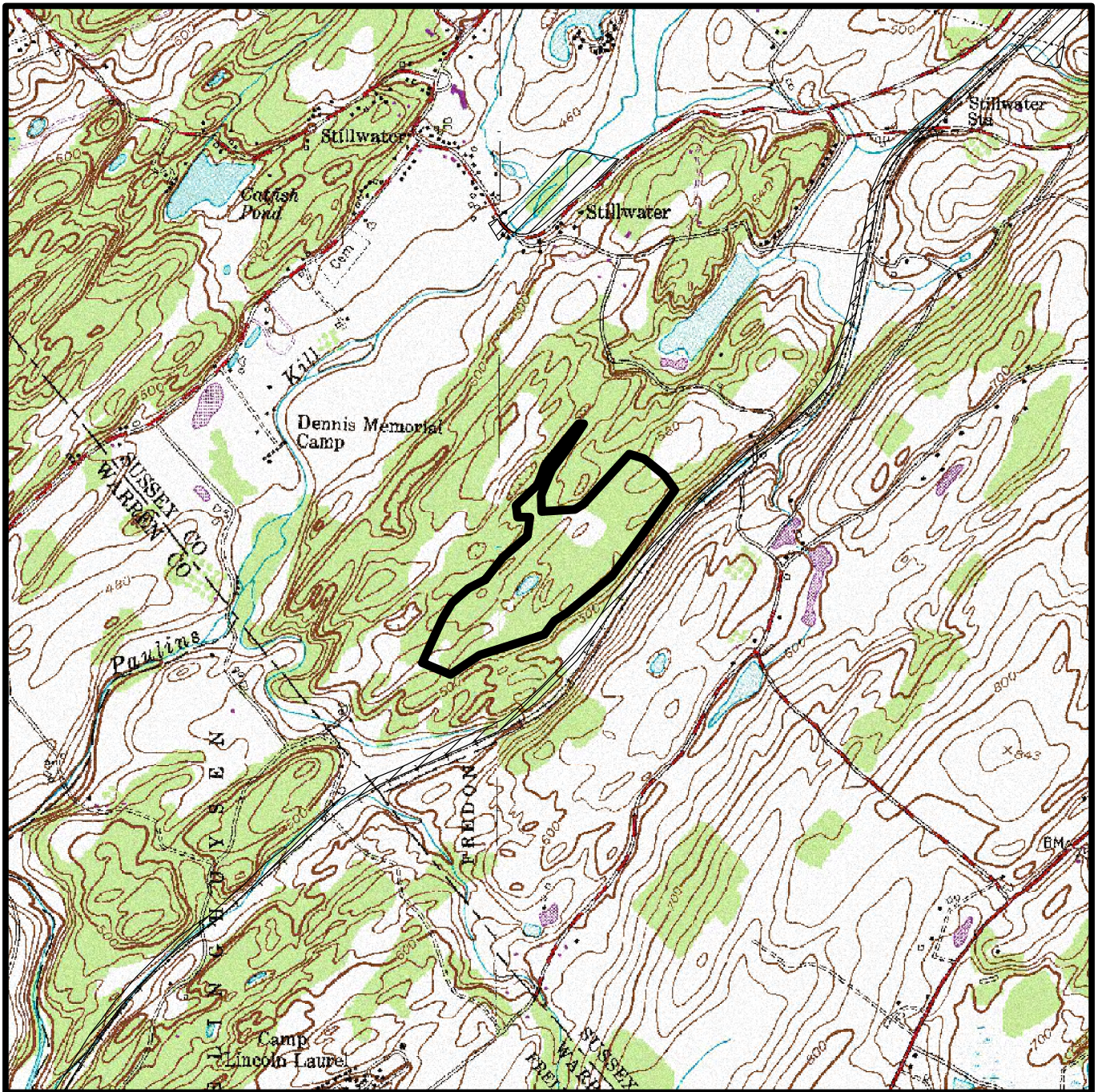
Natural Lands Management



Priority Sites

Public Land

4



Natural Heritage Priority Site

Stillwater Ridge

Sussex County



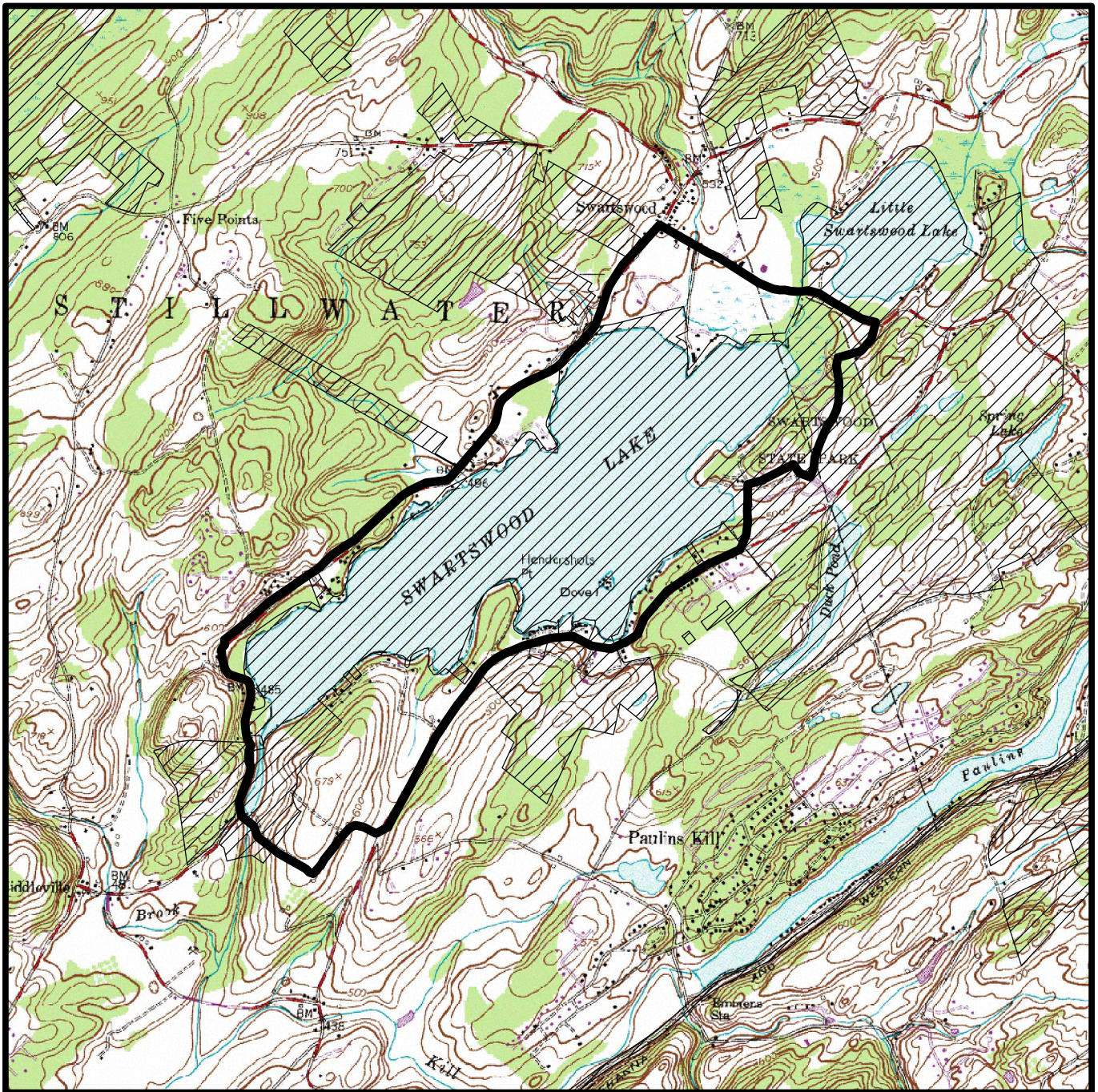
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Natural Lands Management



Priority Sites

Public Land



Natural Heritage Priority Site

Swartswood Lake

Sussex County



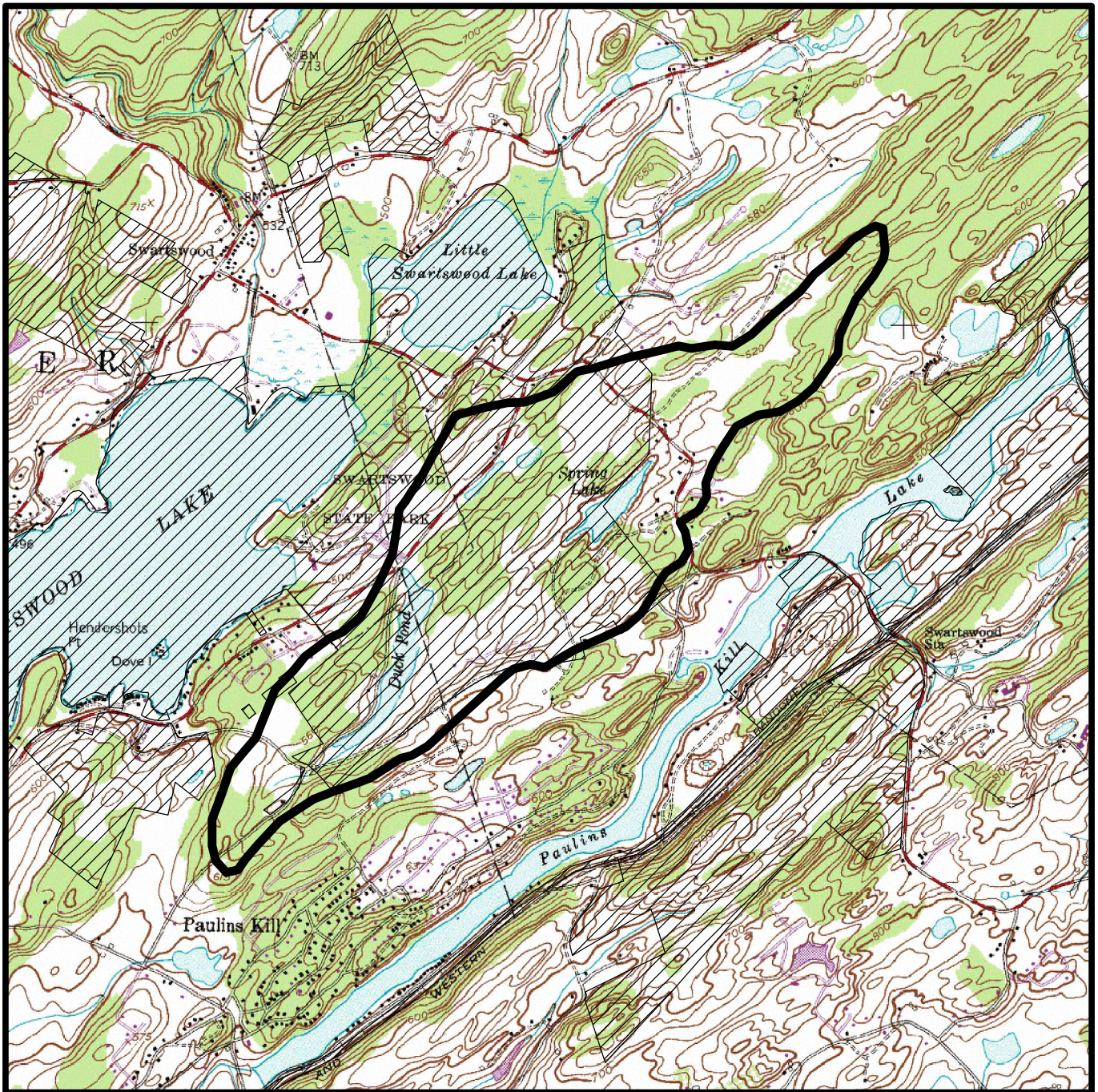
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Natural Lands Management



 Priority Sites
 Public Land

4



Natural Heritage Priority Site

Swartswood Sinkhole Ponds

Sussex County



NJ Department of Environmental Protection
Division of Parks and Forestry

Natural Lands Management



 Priority Sites
 Public Land