

HILLSBOROUGH TOWNSHIP
SOMERSET COUNTY, NJ

NATURAL RESOURCE INVENTORY

November 2010

PREPARED BY:
F. X. Browne, Inc.

PREPARED FOR:
Hillsborough Township

HILLSBOROUGH TOWNSHIP
SOMERSET COUNTY, NJ

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Hillsborough Township Natural Resource Inventory

Table of Contents

<u>Section</u>	<u>Page</u>
Executive Summary	v
1.0 Introduction	1
1.1 Purpose of the Natural Resource Inventory	1
1.2 General Conditions of Hillsborough Township.....	1
1.3 Regulatory Agencies.....	2
2.0 History	11
2.1 Local History	11
2.2 Historic Preservation.....	11
3.0 Climatology	15
3.1 The North Zone.....	15
3.2 The Central Zone	15
4.0 Geology and Groundwater.....	17
4.1 Hillsborough Township Geology.....	17
4.1.1 Lockatong Formation.....	17
4.1.2 Passaic Formation	17
4.1.3 Passaic Formation (Gray Bed).....	17
4.1.4 Jurassic Diabase.....	17
4.2 Bedrock Aquifers Within Hillsborough Township.....	17
4.3 Ground Water Recharge in Hillsborough Township	21
4.4 Water Supply Planning	29
4.5 Wellhead Protection.....	29
4.6 Sole-Source Aquifers	29
4.7 Known Contaminated Sites List (KCSNJ) for New Jersey	33
4.8 USEPA Superfund Sites	36
5.0 Soils	39
5.1 Prime and Other Important Farmlands	49
5.2 Hydrologic Soil Group.....	49
5.3 Hydric Soils and Criteria	53
5.3 Steep Slopes.....	53
5.4 Soil Erosion.....	57
5.4.1 Erosion Factor Kw	57
5.4.2 Wind Erodability Group	57
5.5 Limitations for Development.....	57

Hillsborough Township Natural Resource Inventory

6.0	Water Resources	63
6.1	Watershed Management Areas	63
6.2	Streams.....	73
6.3	Floodplains.....	73
6.4	Riparian Zones Within Hillsborough Township.....	73
6.5	Lakes and Ponds	77
6.6	Surface Water Quality and Classification.....	78
6.7	Water Quality Monitoring in New Jersey.....	78
6.7.1	Ambient Surface Water Monitoring Network (ASWM).....	79
6.7.2	NJDEP Supplemental Ambient Surfacewater Monitoring Network (SASMN).....	79
6.7.3	Ambient Biomonitoring Network (AMNET).....	79
6.8	Subwatershed Impairment (HUC 14)	83
6.9	Surface Water Discharges.....	83
6.10	Suggested Practices for Surface Water Quality Protection.....	85
6.10.1	Stormwater Runoff	85
6.10.2	Impervious Coverage.....	85
6.10.3	Inadequate Stream Buffers.....	85
7.0	Wetlands	87
7.1	Land Use/Land Cover Classification System	87
7.2	Natural Wetlands	87
7.3	Managed or Disturbed Wetlands	91
7.4	Agricultural and Former Agricultural Wetlands.....	92
7.5	Wetland Resource Value Classification.....	92
7.6	NJ Freshwater Wetlands Protection Act regulations (N.J.A.C. 7:7A).....	92
8.0	Air Quality	93
8.1	National “Clean Air” Standards.....	93
8.2	Regional and Local Air Monitoring Sites and Statistics.....	93
9.0	Land Use/Land Cover	95
9.1	Urban or Built-Up Land.....	99
9.2	Agricultural Land.....	99
9.3	Forestland.....	99
9.4	Water.....	99
9.5	Wetlands	99
9.6	Barren Land	99
9.7	Hillsborough Township Preserved Open Space Areas	99
9.7.1	State Preserved Open Space Areas	103
9.7.2	County Preserved Open Space Areas	103
9.7.3	Local Preserved Open Space Areas	103

Hillsborough Township Natural Resource Inventory

10.0	Wildlife and Plants.....	105
10.1	The NJDEP Bureau of Freshwater Fisheries	105
10.2	Plant Communities of Hillsborough Township	105
10.3	Landscape Project Priority Habitats.....	111
10.4	Endangered and Threatened Plant and Animal Species of New Jersey.....	115
10.5	Recommendations for Protection of Endangered and Threatened Plant and Animal Species	116
10.6	Potential and Confirmed Vernal Pool Habitats.....	117
11.0	Sources of Information	119

List of Figures

<u>Figure</u>		<u>Page</u>
Figure 1	Hillsborough Township Location Map.....	3
Figure 2	Hillsborough Township Map	5
Figure 3	Digital Elevation Model for Hillsborough Township.....	7
Figure 4	Population Density from 2000 Census	9
Figure 5	Cultural and Historic sites in Hillsborough Township	12
Figure 6	Bedrock Geology in Hillsborough Township.....	18
Figure 7	Bedrock Aquifers of Hillsborough Township.....	22
Figure 8	Ground Water Recharge in Hillsborough Township	26
Figure 9	Water Supply Planning Areas and Well Head Protection Areas for Public Supply Wells.....	30
Figure 10	Known Contaminated Sites in Hillsborough Township	37
Figure 11	Major Soil Groups in Hillsborough Township	47
Figure 12	Hydric Soils and Prime Farmland in Hillsborough Township.....	50
Figure 13	Steep Slopes and Soil Erodability in Hillsborough Township.....	55
Figure 14	Watershed Management Areas and Subwatersheds in Hillsborough Township ..	64
Figure 15	Millstone Watershed Management Area	67
Figure 16	North and South Branch Raritan Watershed Management Areas	69
Figure 17	Lower Raritan, South River and Lawrence Watershed Management Areas	71
Figure 18	FEMA Flood Hazard Areas in Hillsborough Township.....	74
Figure 19	Surface Water Quality Monitoring & Standards for Hillsborough Township.....	80
Figure 20	Surface Water and Wetlands in Hillsborough Township	89
Figure 21	2002 Land Use/Land Cover for Hillsborough Township	97
Figure 22	Preserved Open Space Lands in Hillsborough Township.....	100
Figure 23	Plant Communities in Hillsborough Township	108
Figure 24	Landscape Project Habitat Conservation Priorities in Hillsborough Township.	112

Hillsborough Township Natural Resource Inventory

List of Tables

<u>Table</u>		<u>Page</u>
Table 1	Aquifer Ranking and Range of Average Yield of High-Capacity Wells.....	21
Table 2	Ground Water Recharge Acreage in Hillsborough Township.....	25
Table 3	Planning Area 10 – Raritan River Data	29
Table 4	Remedial Level Codes and Descriptions	33
Table 5	Known Contaminated Sites in Hillsborough	34
Table 6	Soil Characteristics of Hillsborough Township.....	41
Table 7	Steep Slopes in Hillsborough Township.....	54
Table 8	Soil Series With Limitations for Development.....	58
Table 9	Watershed Management Areas in Hillsborough Township	63
Table 10	Riparian Zone Width Requirements	77
Table 11	Lakes in Hillsborough Township.....	78
Table 12	ASWM Monitoring Sites in Hillsborough Township.....	79
Table 13	New Jersey AMNET Sampling Locations in Hillsborough Township	83
Table 14	303(d) List of Water Quality Limited Waters with Priority Ranking.....	84
Table 15	Wetlands Within Hillsborough Township	88
Table 16	Land Use/Land Cover Areas Within Hillsborough Township	95
Table 17	Forestland Acreage Within Hillsborough Township	105
Table 18	Landscape Project Habitat Rankings for Hillsborough Township	111
Table 19	Vernal Pools Within Hillsborough Township.....	117
Table 20	Obligate and Facultative Vernal Pool Breeding Amphibians of New Jersey	118

List of Appendices

Appendix

A	Preserved Lands of Hillsborough Township.....	125
B	New Jersey State Listed Endangered and Threatened Wildlife.....	147
C	New Jersey Endangered Plant Species List	153

Hillsborough Township Natural Resource Inventory

Executive Summary

Summary of Results

Hillsborough Township contains a variety of natural resources that are valuable to the community. Natural resources should be protected to the greatest extent possible in order to maintain their ecological and economic value to the Township. Resources can be protected by conservation easements, the purchase of development rights, property acquisition, public education, and by Township ordinances.

The purpose of this Natural Resource Inventory (NRI) is to identify, describe and provide recommendations to preserve and manage the natural resources of Hillsborough Township. The NRI is an important tool for environmental commissions, planning boards, zoning boards of adjustment as well as developers planners, engineers, and environmental consultants. Readers can use the NRI as a tool to increase their understanding of the Township's natural systems, their limitations, and opportunities for use; to help identify priority areas for open space, historic, and farmland preservation; as a reference for developing municipal ordinances; and as a guide in the site plan review process.

Potential Actions and Measures to Identify and Efficiently Protect Resources

The following recommendations are offered to Hillsborough Township and its residents. These actions will aid in the protection and restoration of Hillsborough's natural resources.

- Utilize this Natural Resource Inventory Report during decision making processes involving the Township's natural resources and future land developments.
- Create a public education program to educate the Township's residents on the importance and value of Hillsborough's natural resources, and to teach them to manage their own resources properly.
- Preserve valuable natural resources by through open space acquisition and/or conservation easement protections. Focus on areas that are contiguous and provide valuable habitat.
- Create and utilize Township regulations (through Zoning and Subdivision and Land Development ordinances) to conserve natural resources.
- Create and utilize stormwater management regulations to minimize the volume and peak flow rates of stormwater runoff. This will decrease erosion and improve water quality.
- Create and utilize regulations and Township design guidelines to minimize impervious surfaces and the disturbance of natural resources.
- Encourage subdividers/developers to cluster houses and construct buildings that are architecturally compatible with existing adjacent historic buildings/districts.
- Establish and utilize regulations for protecting and improving buffer zones adjacent to waters, wetlands, and vernal pools.
- Protect critical areas that may affect groundwater and the public water supply.
- Recommend conservation easements and establish enforcement regulations and procedures. Work together with local land trusts and conservation organizations.
- Work together with other organizations and/or communities to conserve and manage natural resources.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

1.0 Introduction

1.1 Purpose of the Natural Resource Inventory

The purpose of a Natural Resource Inventory is to identify, describe and provide recommendations on the natural resources of a community. A community's natural resources are vital to its character, affecting economics and quality of life. Protecting natural resources and using them wisely is essential to the public health, safety, and welfare of the community and its residents.

As the population of Hillsborough Township continues to increase, it will be increasingly important to manage and protect the Township's natural resources. Accurately documenting the Township's natural resources is the first step to making important decisions about balancing land development with conservation.

1.2 General Conditions of Hillsborough Township

Hillsborough Township is located in the southwest portion of Somerset County in north-central New Jersey, as shown in Figure 1: Hillsborough Township Location Map. United States Highway 206 runs north to south through the eastern portion of Hillsborough Township, as shown on the Hillsborough Township Map in Figure 2. Figure 3, the Digital Elevation Model for Hillsborough Township, illustrates the variation of elevations in Hillsborough Township. The Sourland Mountain range occupies the southwest portion of the township and ranges from approximately 150 feet to 700 feet above sea level. The Raritan River defines the northern township boundary and the Millstone River defines the eastern boundary. The confluence of these rivers is located just outside of the northeast corner of the township which ranges between approximately 50 feet to 150 feet above sea level. See.

The 2000 U.S. Census listed a population of 36,782 residents for Hillsborough Township. Of this, 18,166 were males (49.39 percent of the population) and 18,616 were females (50.61 percent of the population). The number of households in Hillsborough Township was 12,705, the majority of which (10,568 or 81.85 percent) were owner-occupied. A lesser proportion (16.55 percent or 2,137 households) was renter occupied and 206 households (1.60 percent) were vacant. The median age in the township in 2000 was 38 years of age. The largest demographic was the five to 17 age bracket, consisting of over 21 percent of the total population. This age group represents those who are most likely to use public recreational facilities. The 30 to 39 demographic and 40 to 49 demographic were slightly smaller proportion of the population, making up 18.7 and 19.8 percent of the total population, respectively.

The largest density of Hillsborough Township residents live in the center and the southeast corner of the Township, as shown in Figure 4.

Hillsborough Township Natural Resource Inventory

1.3 Regulatory Agencies

New Jersey county regulatory agencies include the Somerset County Soil Conservation District. New Jersey state regulatory agencies include the New Jersey Department of Environmental Protection (NJDEP). Federal regulatory agencies include the Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA), U.S. Army Corps of Engineers (ACOE), and the Federal Emergency Management Agency (FEMA).

Hillsborough Township Natural Resource Inventory

Figure 1 Hillsborough Township Location Map

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 2 Hillsborough Township Map

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 3 Digital Elevation Model for Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 4 Population Density from 2000 Census

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

2.0 History

2.1 Local History

Clovis-type spear points have been found, which indicates that Hillsborough Township was first settled at least 10,000 to 12,000 years ago when mammoth and mastodon existed in New Jersey. The township was occupied by man continuously since that time, based on findings of artifacts from all archaeological periods.

During the middle of the 17th century, the Dutch came to explore the Hillsborough area. It was occupied by the Unami Indians, part of the Lenapi Tribe. They were considered part of the Algonquin Nation, since they spoke the language.

Hillsborough was known as the “Westering Precinct of Somerset County” until it received its Charter on May 29, 1771 and officially became Hillsborough Township. The Township is made up of five small villages including Belle Mead, Blackwells Mills, Flagtown, Neshanic, and South Branch.

2.2 Historic Preservation

Hillsborough Township contains five NJDEP Historic Districts including the Millstone Valley Agricultural Historic District, North Hillsborough Raritan River Historic District, Neshanic Historic District, Inch Lines Linear Multistate Historic District, and the Delaware and Bound Brook (Reading) Railroad Historic District. These historic districts are shown in Figure 5: Cultural and Historic sites in Hillsborough Township

The Millstone Valley Agricultural Historic District (National Register of Historic Places #76001188) operated as a historical agricultural area since the early 1800s and consists of 5,730 acres, 28 buildings, and 5 structures. The agricultural district is located along River Road and Millstone River, along the eastern boundary of the township.

The North Hillsborough Raritan River Historic District, is located along the Raritan River and the northern boundary of the township. The 2,383-acre historic district includes a portion of the Historic Duke Estate and 25 other NJDEP listed historic properties including South Branch Dutch Reformed Church, General Store and Post Office, Raritan Valley Grange Number 153, P.J. Quick Farm, and numerous historic houses.

The Neshanic Historic District (National Register of Historic Places #79001519) was named for the Raritan Indians who lived along the Raritan River. This village was settled by Dutch farmers around 1750 and consisted of a church, school, grist mill, and tavern. It consists of 1070 acres, 23 buildings, and 1 structure.

Hillsborough Township also contains portions of three NJDEP listed historic railroad districts, the Lehigh Valley Railroad Historic District, the Inch Lines Linear Multistate Historic District and the Delaware and Bound Brook (Reading) Railroad Historic District.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 5 Cultural and Historic sites in Hillsborough Township

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Hillsborough Township Natural Resource Inventory

3.0 Climatology

New Jersey is approximately 166 miles long and 65 miles wide, and is located about half way between the North Pole and the Equator. Climate varies through out the state mainly due to “prevailing westerlies,” winds that flow from the west to the east. As they shift north and south, they affect New Jersey’s climate. New Jersey is divided into five climate zones; North, Central, Southwest, Pine Barrens, and Coastal. Hillsborough Township is located almost equally within the North and Central Zones.

3.1 The North Zone

The North Zone (the northwest portion of Hillsborough Township) consists mainly of small mountains (up to 1800 feet in elevation) and valleys that are part of the Appalachian Uplands. Prevailing winds typically come from the northwest in winter and from the southwest in summer. The North Zone is the coldest zone within New Jersey, and is typically 10 degrees cooler and receives approximately 30 inches more snow in the winter than the Coastal Zone. The topography of the North Zone makes it unique from other zones within New Jersey. Clouds and precipitation increase as they pass over the highlands and mountains.

3.2 The Central Zone

The Central Zone (the southeast portion of Hillsborough Township) is mostly urban, with concentrations of buildings, roads, and paved surfaces. This causes a “heat island” phenomenon which means warmer nighttime temperatures due to the retention of heat by impervious surfaces. The northern edge of the Central Zone (which runs through the center of Hillsborough Township) is typically the dividing line between wintertime precipitation freezing or not freezing. During summertime, this boundary also divides comfortable and uncomfortable sleeping temperatures.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

4.0 Geology and Groundwater

4.1 Hillsborough Township Geology

Hillsborough Township contains four bedrock geology formations which include the Lockatong Formation, Passaic Formation, Passaic Formation Gray Bed, and Jurassic Diabase. See Figure 6: Bedrock Geology in Hillsborough Township for the location of these formations. A majority of the township is underlain by the Passaic Formation, with bands of Passaic Formation Gray Bed interlaid with the Passaic Formation west of a fault line that bisects the township. The Sourland Mountain Range located in the south west portion of the township consists primarily of Jurassic Diabase and the Lockatong Formation.

4.1.1 Lockatong Formation

The Lockatong Formation is made up of lacustrine deposits of very-fine to fine-grained silts, clays and sands. It is mostly made up of gray-red, dark brown and grayish-purple mudstones, argillaceous sandstones, and siltstones. The bottom portion was formed from transgressive, fluvial, or lake-margin sediments. The middle portion was formed from lake-bottom materials. The top portion was formed from regressive waters, mudflats, and lake margin materials.

4.1.2 Passaic Formation

The Passaic Formation is made up of sediment deposits of fine-grained sands, silts, and clay, which cemented into red-brown, brownish-purple and grayish red shales, siltstones, silty mudstones and argillaceous very-fine grained sandstones.

4.1.3 Passaic Formation (Gray Bed)

The Passaic Formation (Gray Bed) are portions of the Passaic Formation that have gray lake deposits made up of gray to black silty mudstones, gray and greenish to purplish-gray argillaceous siltstones, black shale, and gray argillaceous fine-grained sandstones.

4.1.4 Jurassic Diabase

Jurassic Diabase was formed when the Newark Basin separated. Magma was injected into the Passaic and Lockatong Formations, metamorphosing the adjacent rock. The red-brown shales of the Passaic Formation appear as bluish-gray hornfels and the gray argillites of the Lockatong Formation appear as brittle-black very-fine-grained hornfels.

4.2 Bedrock Aquifers Within Hillsborough Township

Aquifers are ranked according to their ability to yield ground water to high-capacity wells, which include water supply, irrigation, and industrial supply wells that are tested for maximum yield. The ranking is based on statistical analysis of median yields over 8,000 high-capacity wells. Table 1 provides the aquifer rankings and ranges of average yield of high-capacity wells.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 6 Bedrock Geology in Hillsborough Township

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Hillsborough Township Natural Resource Inventory

Aquifer Rank	Bedrock Aquifers Located Within Hillsborough Township	Range of Average Yield of High-Capacity Wells (gallons/minute)
A	N/A	Greater than 500
B	N/A	251 to 500
C	Brunswick Aquifer	101 to 250
D	Lokatong Formation	25 to 100
E	Diabase	Less than 25

Source: *Bedrock Aquifer Geologic Name: Aquifers of New Jersey, N.J. Geological Survey Digital Geodata Series DGS98-5, NJGS, 1999*

The majority of Hillsborough Township is located on the Brunswick Aquifer. The area around the Sourland Mountains is located on the Lockatong Formation and Diabase. Figure 7 shows the extent of bedrock aquifers in Hillsborough Township. Ground water is stored and transmitted in the fractures of all three aquifers.

The Brunswick Aquifer is made up of sandstone, siltstone, and shale of the Passaic, Towaco, Feltville, and Boonton Formations. Ground water is typically fresh, slightly alkaline, non-corrosive and hard. The Lockatong Formation is made up of silty argillite, mudstone and fine-grained sandstone and siltstone with minor limestone. Ground water is typically fresh, slightly alkaline, noncorrosive and hard. The Diabase is made up of hard and dense igneous rocks. Ground water is typically fresh, slightly to highly alkaline, and moderately hard.

4.3 Ground Water Recharge in Hillsborough Township

There are many factors that influence the amount of rainwater that enters an aquifer and reaches the saturated zone in order to become groundwater. These factors include the nature and structure of the aquifer, climate, the nature of the soil, and the vegetative cover.

Groundwater recharge is estimated using the NJGS methodology from the NJ Geological Survey Report GST-32 "A Method for Evaluation of Ground-Water-Recharge Areas in New Jersey". Estimates of groundwater recharge are measured in inches per year and are based on land use/land cover, soils, and climatic data.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 7 Bedrock Aquifers of Hillsborough Township

Hillsborough Township Natural Resource Inventory

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Hillsborough Township ground water recharge ranges from 0 inches per year to 16 inches per year, as shown in Figure 8: Ground Water Recharge in Hillsborough Township. Table 2 provides additional groundwater information for Hillsborough Township.

Table 2			
Ground Water Recharge Acreage in Hillsborough Township			
Ground Water Recharge Rank	Inches Per Year of Ground Water Recharge	Acreage Within Hillsborough Township (acres)	% Within Hillsborough Township
A	17 to 21	***	***
B	12 to 16	12,852.38	36.56%
C	9 to 11	12,932.63	36.79%
D	1 to 8	2,026.83	5.77%
E	0	428.43	1.22%
L	Hydric Soil	388.22	1.10%
W	Wetland/ Water	6,375.12	18.13%
X	No Recharge Calculated	131.25	0.37%

Source: Somerset Co. GW Recharge Rank: Ground-Water Recharge for Somerset County, NJ, NJGS/BWR, 2004

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 8 Ground Water Recharge in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

4.4 Water Supply Planning

The New Jersey Statewide Water Supply Plan (NJSWSP) was written to properly manage the water resources of New Jersey and ensure a continued adequate supply and quality of water. It contains 23 Water Supply Planning Areas. Hillsborough Township is located within Water Supply Planning Area #10. It is important to determine the amount of available water to effectively plan and manage the Township's water supply. The NJSWSP predicts that there will be a surplus of 49 mgd (millions of gallons per day) in 2040. Figure 9 shows the water supply planning areas and well head protection areas for public supply wells in Hillsborough Township. Planning Area 10 (the Raritan River watershed) is 925 square miles and is the largest planning area in Hillsborough Township. The 1990 average water demand was 118 mgd (64 mgd coming from surface waters and 54 mgd coming from ground water).

Planning Area	Net Available Water	1990 Water Demand	1990 Surplus/ Deficit	2010 Water Demand	2010 Surplus/ Deficit	2040 Water Demand	2040 Surplus/ Deficit
10	2113 mgd	118 mgd	95 mgd	141 mgd	72 mgd	164 mgd	49 mgd

Source: New Jersey Statewide Water Supply Plan (NJSWSP), August 1996

4.5 Wellhead Protection

A Well Head Protection Area (WHPA) is the area around a Public Community Water Supply (PCWS) well or Public Non-Community Water Supply Well (PNCWS). For unconfined wells, the WHPA is calculated and delineates the horizontal area of groundwater captured by a well at a specific rate over a period of time. For confined wells, the WHPA is a 50 foot radius around the well. WHPA delineation methods can be found in "Guideline for Delineation of Well Head Protection Areas in New Jersey". These delineations are a result of the Safe Drinking Water Act Amendments of 1986 and 1996 and because of the Source Water Area Protection Program (SWAP), and are the first step in defining sources of water for public supply wells.

4.6 Sole-Source Aquifers

Sole-source aquifers (SSA) are aquifers that provide over 50% of the drinking water to an area. They are important because the water would be impossible to replace if contaminated. They are defined by the U.S. Environmental Protection Agency (EPA) as authorized in section 1424(e) of the Safe Drinking Water Act of 1974. The recharge zone is the area that recharges the aquifer. The source zone is the upstream area that provides recharge water to the aquifer.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 9 Water Supply Planning Areas and Well Head Protection Areas for Public Supply Wells

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Hillsborough Township is located within the Northwest New Jersey Sole-Source Aquifer Area, formerly known as the ‘Fifteen Basin Aquifer Systems of New Jersey’. This zone includes the following watersheds: Delawanna Creek, Flat Brook , Lopatcong Creek, Musconetcong River, North Branch Raritan River, Papakating Creek, Paulins Kill, Pequest River, Pochuck Creek, Pohatcong Creek, South Branch Raritan River, Shimmers Brook, Van Campens Brook, Wallkill River, and Millstone River (the portion that is outside the Coastal Plain). The stream-flow source zone is the same as the recharge zone (with the entire Millstone River watershed).

4.7 Known Contaminated Sites List (KCSNJ) for New Jersey (Non-Homeowner) 2009

The KCSNJ are sites that have soils or groundwater that are contaminated at levels equal to or greater than applicable standards. The KCSNJ Report designates the status of active, pending or closed sites. Active sites have at least one active case and could have one or more pending and/or closed case. Pending sites have at least one pending case, no active case(s), and one or more closed case. Closed cases have only closed cases, no active or pending cases.

A Remedial Level code is assigned based on the Site Remediation Program’s 1989 Case Assignment Manual as shown in Table 4. The Site Remediation Program determines remedial levels based on the overall degree of contamination of a site. There are 37 Known Contaminated Sites within Hillsborough Township. Table 5 provides a list of know contaminated sites in Hillsborough along with more detailed information about each site. The locations of the KCS within Hillsborough Township are depicted on Figure 10.

Table 4 Remedial Level Codes and Descriptions	
Remedial Level Code	Remedial Level Description
B	Single phase RA – single contamination affecting only soils
C1	No formal design – source known or identified – potential groundwater contamination
C2	Formal design – known source or release with groundwater contamination
C3	Multi-phased RA – unknown or uncontrolled discharge to soil or groundwater
D	Same as remedial level C3 plus typically designated as a Federal “Superfund Site.”

Source: NJDEP Known Contaminated Sites List for New Jersey (Non-Homeowner), Fall 2009, NJDEP SRP DRS ISE BISPS, August 2009

Hillsborough Township Natural Resource Inventory

Table 5 Known Contaminated Sites in Hillsborough				
Agency Tracking Identifier #	Site Name as it Appears in the Known Contaminated Sites (KCS) Report	Site Assessment Status	Date When Remedial Status was Designated	Remedial Level Code
19405	Betar Inc	Active	11/16/2007	B
192363	Maintenance & Transportation Facility	Active	6/25/1999	C2
88009	16 Tally Ho Trail	Active	5/24/2001	C1
15052	Belle Mead Mobil Inc Valero	Active	5/15/1998	C2
45614	K J'S S/S	Pending	6/8/1998	C2
13323	Exxon R/S 3-2198	NFA-A (Limited Restricted Use)	10/21/1999	C2
55930	National Freight	Active	3/1/2003	C3
1607	Rt 206 Station Inc	Active	10/7/1999	C2
182554	Phoenix Farm	Active	10/24/2008	C2
1658	Hillsborough Service Center	Active	12/7/2006	C2
1617	Kupper Airport	Active	2/3/1997	C3
192361	Hillsborough Twp Department of Public Works	Active	3/23/1995	C2
66208	National Diagnostics	Active	5/30/1991	C3
18376	Buckeye Pipeline Hamilton Valve	Active	7/6/1999	C2
69068	NJDOT Route 206 Section 15J Project	Active	4/24/1996	C3
95541	Amwell Road Ground Water Contamination	Active	10/26/2001	C3
68150	301 South Branch Road	Pending	3/3/2000	C1
66184	Sterling Drug Company Incorporated	Active	2/26/1997	C2
67148	871 South Branch River Road	Pending	9/9/1997	C1
67096	17 Scott Drive	Pending	11/1/1993	C1

Hillsborough Township Natural Resource Inventory

Table 5 (Continued)				
Known Contaminated Sites in Hillsborough				
Agency Tracking Identifier #	Site Name as it Appears in the Known Contaminated Sites (KCS) Report	Site Assessment Status	Date When Remedial Status was Designated	Remedial Level Code
18377	Citgo Service Center (Former)	Active	9/27/1999	C2
118727	Weston Road Landfill	Active	4/30/2002	C3
87048	Minnesota Mining and Manufacturing Com	Active	11/28/2000	C1
1609	Getty 56167	Active	7/10/2006	C1
66711	Woods Road Ground Water Contamination	Active	10/17/2001	C1
38082	DLA Defense National Stockpile	Active	12/6/2000	C3
6759	Flemington Maintenance Yard	Active	4/3/1996	C2
226663	Royce Brook Oil Spill	Active	10/31/2006	C1
66119	Nichols Engineering & Research Corp	Active	9/4/1987	D
1605	V A Supply Depot	Active	12/6/2000	C3
66501	Old Camplain Road Ground Water Contam	Active	5/15/1992	C1
86859	604 Hillsborough Road	Active	5/31/2000	C2
49113	Duke Farms	Active	6/2/1998	C2
42621	West Essex Industrial Park	Active	3/28/2002	C2
95747	General Services Admin Belle Meade Depot	Active	4/27/2000	C3
1604	Texaco Service Station	Active	2/26/1996	C2
66685	Hillsborough Township Sanitary Landfill	Active	11/2/2006	C3

Source: NJDEP Known Contaminated Sites List for New Jersey (Non-Homeowner), Fall 2009, NJDEP SRP DRS ISE BISPS, August 2009

Hillsborough Township Natural Resource Inventory

4.8 USEPA Superfund Sites

Superfund is an environmental program administered by the USEPA Office of Solid Waste and Emergency Response (OSWER) that addresses abandoned hazardous waste sites. Hazardous waste sites are assessed, placed on the National Priorities List (a list of the top hazardous sites within the US and its territories), and cleaned up. The National Oil and Hazardous Substances Pollution contingency Plan (NCP) regulates how to respond to hazardous substance releases.

The Krysowaty Farm (EPA ID NJD980529838) is the only known site in Hillsborough Township to have existed on the National Priorities List (NPL). The location of this site is depicted on Figure 10. This farm was a waste disposal area contaminated with approximately 500 drums of paint waste, dye waste, and other contaminants. In 1979, groundwater, soil, and debris were found to have been contaminated with many chemicals such as Volatile Organic Compounds (VOCs), pesticides, base and neutral compounds, and traces of polychlorinated biphenyls (PCBs).

Cleanup actions involving the removal of the 500 drums and 13,700 cubic yards of soil during 1985 and 1986 allowed this site to be removed from the NPL list on February 22, 1989. Groundwater was monitored for 5 years (till 1991) and was determined to have no contaminants. New Jersey and the US EPA have determined that this site no longer poses a threat to public health or the environment.

Hillsborough Township Natural Resource Inventory

Figure 10 Known Contaminated Sites in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

5.0 Soils

Soils are an important resource for Hillsborough Township, as they are the foundation for all land uses. Soils can determine and affect the feasibility of development, the feasibility of agricultural uses, and the types of plant communities that can be supported. Table 6 lists the soil types and acreage of each soil type within Hillsborough Township, and Figure 11 shows the major soil groups in Hillsborough Township and their distribution throughout the township.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

**Table 6
Soil Characteristics of Hillsborough Township**

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
AbrA	Abbottstown silt loam, 0 to 2 percent slopes	57.85	0.16%	C	2B3	Statewide Importance	0.37	5
AbrB	Abbottstown silt loam, 2 to 6 percent slopes	423.95	1.21%	C	2B3	Statewide Importance	0.37	5
BhnA	Birdsboro silt loam, 0 to 2 percent slopes	143.94	0.41%	B	***	Prime Farmland	0.37	5
BhnB	Birdsboro silt loam, 2 to 6 percent slopes	1,276.80	3.63%	B	***	Prime Farmland	0.37	5
BhnC	Birdsboro silt loam, 6 to 12 percent slopes	19.62	0.06%	B	***	Statewide Importance	0.37	5
BoyAt	Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded	167.81	0.48%	B/D	2B3	Statewide Importance	0.32	8
BucB	Bucks silt loam, 2 to 6 percent slopes	500.88	1.42%	B	***	Prime Farmland	0.37	5
BucC2	Bucks silt loam, 6 to 12 percent slopes, eroded	80.80	0.23%	B	***	Statewide Importance	0.37	5
ChcB	Chalfont silt loam, 2 to 6 percent slopes	979.40	2.79%	C	2B3	Statewide Importance	0.43	5
ChcBa	Chalfont silt loam, 2 to 6 percent slopes, stony	366.85	1.04%	C	2B3	***	0.37	5
ChcC	Chalfont silt loam, 6 to 12 percent slopes	122.04	0.35%	C	2B3	Statewide Importance	0.37	5

Hillsborough Township Natural Resource Inventory

Table 6 (Continued)
Soil Characteristics of Hillsborough Township

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
ChcC2	Chalfont silt loam, 6 to 12 percent slopes, eroded	13.77	0.04%	C	2B3	Statewide Importance	0.43	5
ChcCa	Chalfont silt loam, 6 to 12 percent slopes, stony	572.56	1.63%	C	2B3	Statewide Importance	0.37	5
ChcDa	Chalfont silt loam, 12 to 25 percent slopes, stony	395.04	1.12%	C	***	***	0.37	5
CheCb	Chalfont-Lehigh silt loams, 6 to 12 percent slopes, very stony	96.63	0.27%	C	2B3	***	0.43	8
CoxA	Croton silt loam, 0 to 2 percent slopes	821.10	2.34%	D	2B3	Statewide Importance	0.43	8
CoxB	Croton silt loam, 2 to 6 percent slopes	83.84	0.24%	D	2B3	Statewide Importance	0.43	8
DunB	Dunellen sandy loam, 3 to 8 percent slopes	406.36	1.16%	A	***	Prime Farmland	0.28	3
DuxA	Dunellen moderately well drained sandy loam, 0 to 2 percent slopes	16.68	0.05%	A	2B3	Prime Farmland	***	3
KepB	Keypoint silt loam, 2 to 5 percent slopes	27.44	0.08%	C	2B3	Prime Farmland	0.43	5
KkoC	Klinesville channery loam, 6 to 12 percent slopes	3,698.65	10.52%	D	***	***	0.24	5
KkoD	Klinesville channery loam, 12 to 18 percent slopes	702.25	2.00%	D	***	***	0.24	5

Hillsborough Township Natural Resource Inventory

Table 6 (Continued)
Soil Characteristics of Hillsborough Township

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
KkoE	Klinesville channery loam, 18 to 35 percent slopes	114.62	0.33%	D	***	***	0.24	5
LbgA	Lamington silt loam, 0 to 2 percent slopes	196.53	0.56%	D	2B3	***	0.32	8
LbtA	Lansdowne silt loam, 0 to 2 percent slopes	1,033.13	2.94%	C	2B3	Statewide Importance	0.43	6
LbtB	Lansdowne silt loam, 2 to 6 percent slopes	608.73	1.73%	C	2B3	Statewide Importance	0.43	6
LdmB	Lawrenceville silt loam, 2 to 6 percent slopes	96.29	0.27%	C	2B3	Prime Farmland	0.43	5
LdmC	Lawrenceville silt loam, 6 to 12 percent slopes	93.89	0.27%	C	***	Statewide Importance	0.43	5
LemB	Lehigh silt loam, 2 to 6 percent slopes	276.63	0.79%	C	2B3	Statewide Importance	0.37	5
LemC	Lehigh silt loam, 6 to 12 percent slopes	292.33	0.83%	C	***	Statewide Importance	0.37	5
LemC2	Lehigh silt loam, 6 to 12 percent slopes, eroded	16.95	0.05%	C	***	Statewide Importance	0.37	5
LemD2	Lehigh silt loam, 12 to 18 percent slopes, eroded	0.33	0.00%	C	***	***	0.37	5
LemDb	Lehigh silt loam, 12 to 18 percent slopes, very stony	4.74	0.01%	C	***	***	0.28	8

Hillsborough Township Natural Resource Inventory

Table 6 (Continued)
Soil Characteristics of Hillsborough Township

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
MonB	Mount Lucas silt loam, 2 to 6 percent slopes	23.57	0.07%	C	2B3	Prime Farmland	0.37	5
MopBb	Mount Lucas-Watchung silt loams, 0 to 6 percent slopes, very stony	105.11	0.30%	C	2B3	***	0.28	8
MopCb	Mount Lucas-Watchung silt loams, 6 to 12 percent slopes, very stony	597.21	1.70%	C	2B3	***	0.28	8
NehB	Neshaminy silt loam, 2 to 6 percent slopes	161.66	0.46%	B	***	Prime Farmland	0.37	5
NehC	Neshaminy silt loam, 6 to 12 percent slopes	17.72	0.05%	B	***	Statewide Importance	0.37	5
NehDb	Neshaminy silt loam, 12 to 18 percent slopes, very stony	16.53	0.05%	B	***	***	0.28	8
NemCb	Neshaminy-Mount Lucas silt loams, 6 to 12 percent slopes, very stony	944.05	2.69%	B/C	***	***	.37 and .28	8
NemDb	Neshaminy-Mount Lucas silt loams, 12 to 18 percent slopes, very stony	185.59	0.53%	B/C	***	***	0.28	8
NotB	Norton loam, 2 to 6 percent slopes	599.42	1.71%	C	***	Prime Farmland	0.32	5

Hillsborough Township Natural Resource Inventory

Table 6 (Continued)
Soil Characteristics of Hillsborough Township

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
PbpAt	Parsippany silt loam, 0 to 3 percent slopes, frequently flooded	128.26	0.36%	D	2B3, 3	***	0.43	8
PenA	Penn silt loam, 0 to 2 percent slopes	191.04	0.54%	C	***	Prime Farmland	0.37	5
PenB	Penn silt loam, 2 to 6 percent slopes	3,579.11	10.18%	C	***	Prime Farmland	0.37	5
PenC	Penn silt loam, 6 to 12 percent slopes	200.04	0.57%	C	***	Statewide Importance	0.37	5
PeoB	Penn channery silt loam, 2 to 6 percent slopes	3,804.59	10.82%	C	***	Prime Farmland	0.32	5
PeoC	Penn channery silt loam, 6 to 12 percent slopes	1,662.07	4.73%	C	***	Statewide Importance	0.32	5
PeoC2	Penn channery silt loam, 6 to 12 percent slopes, eroded	68.98	0.20%	C	***	Statewide Importance	0.32	5
PeoD	Penn channery silt loam, 12 to 18 percent slopes	42.52	0.12%	C	***	***	0.32	5
PepB	Penn-Bucks complex, 2 to 6 percent slopes	1.53	0.00%	C	***	Prime Farmland	0.37	5
PepC2	Penn-Bucks complex, 6 to 12 percent slopes, eroded	18.78	0.05%	C	***	Statewide Importance	0.37	5
QY	Quarry	184.23	0.52%	***	***	***	***	8
RarAr	Raritan silt loam, 0 to 3 percent slopes, rarely flooded	376.79	1.07%	C	2B3	Prime Farmland	0.37	5

Hillsborough Township Natural Resource Inventory

Table 6 (Continued)
Soil Characteristics of Hillsborough Township

Soil Symbol	Soil Series Name	Acreage Within Hillsborough Township	% Within Hillsborough Township	Hydrologic Soil Group	Hydric Criteria Code	Farmland*	Erosion Factor Kw	Wind Erodability Group
RedB	Readington silt loam, 2 to 6 percent slopes	182.79	0.52%	C	2B3	Prime Farmland	0.37	5
RehA	Reaville silt loam, 0 to 2 percent slopes	1,651.42	4.70%	C	2B3	Statewide Importance	0.37	5
RehB	Reaville silt loam, 2 to 6 percent slopes	1,919.97	5.46%	C	2B3	Statewide Importance	0.37	5
RehC2	Reaville silt loam, 6 to 12 percent slopes, eroded	2.39	0.01%	C	***	Statewide Importance	0.37	5
ROPF	Rough broken land, shale	1.79	0.01%	D	***	***	***	***
RorAt	Rowland silt loam, 0 to 2 percent slopes, frequently flooded	3,286.22	9.35%	C	2B3	***	0.43	5
RoyB	Royce silt loam, 2 to 6 percent slopes	900.93	2.56%	C	***	Prime Farmland	0.37	5
UdrB	Udorthents, refuse substratum, 0 to 8 percent slopes	47.11	0.13%	D	***	***	0.37	5
UR	Urban land	273.69	0.78%	***	***	***	***	8
WATER	Water	246.05	0.70%	***	***	***	***	***
WhpA	Whippany silt loam, 0 to 3 percent slopes	11.72	0.03%	C	2A or 2B3	Prime Farmland	0.37	6

Source: Soil Survey Geographic 2008 (SSURGO) Database for Somerset County, New Jersey, NJDEP, USDA, NRCS, 2008

Source: NRCS Soil Data Mart (Water Features for Somerset County, New Jersey)

Source: NRCS Soil Data Mart (Hydric Soils for Somerset County, New Jersey)

Source: NRCS Soil Data Mart (Prime and Other Important Farmlands for Somerset County, New Jersey)

Hillsborough Township Natural Resource Inventory

Figure 11 Major Soil Groups in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

5.1 Prime and Other Important Farmlands

The NRCS Web Soil Survey provides designations of important farmlands that include prime farmland, unique farmland, and farmland of statewide or local importance. Hillsborough Township contains prime farmlands and farmlands of statewide importance. Table 6 shows the soil characteristics of Hillsborough Township soils that are classified as prime and other important farmlands.

Prime farmland is defined by the U.S. Department of Agriculture (USDA) as “land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods.” Prime farmland soils are designated by the following criteria; soil properties, land use, frequency of flooding, irrigation, the water table, and wind erodability. Prime Farmland within Hillsborough Township is depicted on Figure 12.

Farmlands of statewide importance are lands that are of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. State agencies are responsible for defining the criteria for farmlands of statewide importance. Farmlands of statewide importance within Hillsborough Township are depicted on Figure 12.

5.2 Hydrologic Soil Group

The Hydrologic Soil Group designation is based on a soil’s estimated runoff potential. There are four groups; A, B, C, and D. Group A soils have a high infiltration rate when wet. Group B soils have a moderate infiltrate rate when wet. Group C soils have a slow infiltration rate when wet. Group D soils have a very slow infiltration rate when wet. Group A soils have the lowest runoff potential while Group D soils have the highest runoff potential. Table 6 shows soil characteristics of Hillsborough Township for hydrologic soil group designations for the soils within Hillsborough Township.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 12 Hydric Soils and Prime Farmland in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

5.3 Hydric Soils and Criteria

Hydric Soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). They must be saturated long enough during the growing season to support hydrophytic vegetation, and are one of the three necessary components that make up a wetland.

Hydric soils are identified through examination, and are classified as hydric if at least one of the approved indicators is present. Table 6 lists the hydric criteria codes of soils within Hillsborough Township and Figure 12 depicts the location and distribution of hydric soils within Hillsborough Township. The criteria for hydric soils are provided as codes, which are defined as:

1. All Histels except for Folistels, and Histosols except for Folists
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Sumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are course sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that re frequently flooded for long or very long duration during the growing season.

Source: NRCS Soil Data Mart (Hydric Soils for Somerset County, New Jersey)

5.3 Steep Slopes

Steep slopes are classified as a percentage. Lower percentage slopes are flatter, and higher percentage slopes are steeper. A slope of 100% is straight up and down, a vertical line from the ground surface. Steep slopes have the tendency to become eroded, because of the force of gravity. Altering steep slopes can cause erosion, landslides, and sedimentation. Development on steep slopes is usually not recommended due to the difficulty of building and maintaining roads, septic systems/sewer systems, water systems and power lines.

Steep slopes within Hillsborough Township were based on the Soil Survey Geographic 2008 (SSURGO) Database for Somerset County, New Jersey. They are typically found along streams and along the Sourland Mountain Range. Table 7 provides slope classification information, acreages of steep slopes in the township, and the percent of steep slopes in Hillsborough

Hillsborough Township Natural Resource Inventory

Township. Figure 13 shows the steep slope areas in Hillsborough Township, along with soil erodability potential.

Table 7		
Steep Slopes in Hillsborough Township		
Steep Slope Classification	Acreage Within Hillsborough Township (acres)	% Within Hillsborough Township
12-18%	951.97	2.71%
12-25%	395.04	1.12%
18-35%	114.62	0.33%

Source: Soil Survey Geographic 2008 (SSURGO) Database for Somerset County, New Jersey, NJDEP, USDA, NRCS, 2008

Hillsborough Township Natural Resource Inventory

Figure 13 Steep Slopes and Soil Erodability in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

5.4 Soil Erosion

Soil Erosion is the process that moves sediment, soil, rock and other particles and deposits them elsewhere. This is typically done by wind, water, ice, gravity, or by living organisms. Erosion is a natural process but is often exacerbated by human activities such as agriculture, deforestation, and land development. A major cause of erosion is the removal of natural vegetation, which disturbs the soil structure and plant roots that hold the soil in place. Excessive erosion can have harmful effects to the environment such as stream sedimentation, ecosystem damage and the loss of soil.

5.4.1 Erosion Factor Kw

Erosion Factor K is the susceptibility of a soil to be eroded by water. It is one factor used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE), which are used to determine the average annual rate of soil loss in tons per acre per year. Typically, if the value is higher, it is more susceptible to sheet and rill erosion by water. Erosion Factor Kw is a factor that indicates the erodability of the whole soil, and is modified by the presence of rock fragments. Erosion Factor Kw for the surface soils are provided in Table 6. The Erosion Factor Kw ranges from .24 to .43 for soils within Hillsborough Township.

5.4.2 Wind Erodability Group

Wind Erodability Groups are soils that are similar in their susceptibility to wind erosion in cultivated areas. They are typically evaluated by soil texture, organic matter content, effervescence due to carbonate reaction with HCl, rock and pararock fragment content, mineralogy, soil moisture, and frozen soil. Group 1 are the most susceptible to wind erosion, while the Group 8 are the least susceptible. The Wind Erodability Groups are listed in Table 6. The Wind Erodability Groups range from 3 to 8 for soils within Hillsborough Township.

5.5 Limitations for Development

Soil characteristics can have a large impact on the construction and land development of a site. Table 8 lists the limitations for development, with respect to dwelling foundations and septic systems, for each soil type in Hillsborough Township. They are rated with a system where A = Not Limited, B = Somewhat Limited and C = Very Limited. Specific site analysis is necessary for any project proposing construction activities.

A restrictive layer is a nearly continuous layer that has physical, chemical or thermal properties that impede the movement of water, air, or roots through the soil. Restrictive layers within Hillsborough Township soils include Fragipan, Paralithic Bedrock, and Lithic Bedrock. Table 8 lists the specific restrictive layers for each soil series. A fragipan is a soil horizon that restricts water flow and root penetration. Paralithic Bedrock is soft bedrock and Lithic Bedrock is hard bedrock.

Hillsborough Township Natural Resource Inventory

Table 8						
Soil Series With Limitations for Development						
Soil Symbol	Restrictive Layer	Depth to Top of Restrictive Layer (inches)	Depth to Seasonal High Water Table	Limitations for Development:		
				Dwellings Without Basements*	Dwellings With Basements*	Septic Systems*
AbrA	Fragipan, Paralithic Bedrock	15-30, 40-60	0	C	C	C
AbrB	Fragipan, Paralithic Bedrock	15-30, 40-61	0	C	C	C
BhnA	***	***	***	A	A	A
BhnB	***	***	***	A	A	A
BhnC	***	***	***	B	B	A
BoyAt	***	***	0	C	C	C
BucB	Paralithic Bedrock	40-50	***	A	A	C
BucC2	Paralithic Bedrock	40-60	***	B	B	C
ChcB	Fragipan, Paralithic Bedrock	15-30, 42-72	.5	C	C	C
ChcBa	Fragipan, Paralithic Bedrock	15-22, 42-66	.5	C	C	C
ChcC	Fragipan, Paralithic Bedrock	15-22, 42-66	.5	C	C	C
ChcC2	Fragipan, Paralithic Bedrock	15-30, 42-72	.5	C	C	C
ChcCa	Fragipan, Paralithic Bedrock	15-22, 42-66	.5	C	C	C
ChcDa	Fragipan, Paralithic Bedrock	15-22, 42-66	.5	C	C	C
CheCb	Fragipan, Paralithic Bedrock	15-30, 42-72	.5	C	C	C
CoxA	Fragipan, Lithic Bedrock	15-20, 40-60	0	C	C	C

Hillsborough Township Natural Resource Inventory

Table 8 (Continued)						
Soil Series With Limitations for Development						
Soil Symbol	Restrictive Layer	Depth to Top of Restrictive Layer (inches)	Depth to Seasonal High Water Table	Limitations for Development:		
				Dwellings Without Basements*	Dwellings With Basements*	Septic Systems*
CoxB	Fragipan, Lithic Bedrock	15-20, 40-60	0	C	C	C
DunB	***	***	***	A	A	A
DuxA	***	***	1.5	A	B	B
KepB	***	***	1.5	B	C	C
KkoC	Paralithic Bedrock	10-20	***	B	C	B
KkoD	Paralithic Bedrock	10-20	***	C	C	B
KkoE	Paralithic Bedrock	10-18	***	C	C	C
LbgA	Fragipan	***	0	C	C	C
LbtA	Paralithic Bedrock	54-66	1	B	C	C
LbtB	Paralithic Bedrock	54-66	1	B	C	C
LdmB	Fragipan, Paralithic Bedrock	***, 40-60	1.5	B	C	C
LdmC	Fragipan, Paralithic Bedrock	24-37, 41-55	1.5	B	C	C
LemB	Lithic Bedrock	40-60	.5	C	C	C
LemC	Lithic Bedrock	40-60	.5	C	C	C
LemC2	Lithic Bedrock	28-40	.5	C	C	C
LemD2	Lithic Bedrock	40-60	.5	C	C	C
LemDb	Lithic Bedrock	40-60	.5	C	C	C
MonB	Lithic Bedrock	48-99	.5	B	C	C
MopBb	***	***	.5	B	C	C
MopCb	Lithic Bedrock	48-99	.5	B	C	C

Hillsborough Township Natural Resource Inventory

Table 8 (Continued)						
Soil Series With Limitations for Development						
Soil Symbol	Restrictive Layer	Depth to Top of Restrictive Layer (inches)	Depth to Seasonal High Water Table	Limitations for Development:		
				Dwellings Without Basements*	Dwellings With Basements*	Septic Systems*
NehB	Lithic Bedrock	48-99	***	A	A	B
NehC	Lithic Bedrock	48-99	***	B	B	B
NehDb	Lithic Bedrock	54-66	***	C	C	B
NemCb	Lithic Bedrock	48-99	.5	A	A	B or C
NemDb	Lithic Bedrock	48-99	.5	C	C	B or C
NotB	Paralithic Bedrock	63-76	***	B	B	C
PbpAt	***	***	0	C	C	C
PenA	Paralithic Bedrock	20-40	***	A	B	B
PenB	Paralithic Bedrock	20-40	***	A	B	B
PenC	Paralithic Bedrock	20-40	***	B	B	B
PeoB	Paralithic Bedrock	20-40	***	A	B	B
PeoC	Paralithic Bedrock	20-40	***	B	B	B
PeoC2	Paralithic Bedrock	20-40	***	B	B	B
PeoD	Paralithic Bedrock	20-40	***	C	C	B
PepB	Paralithic Bedrock	20-40 or 40-60	***	A	B	B
PepC2	Paralithic Bedrock	20-40 or 40-60	***	B	B	B
QY	Lithic Bedrock	0	***	***	***	***
RarAr	Fragipan	22-33	.5	C	C	C

Hillsborough Township Natural Resource Inventory

Table 8 (Continued)						
Soil Series With Limitations for Development						
Soil Symbol	Restrictive Layer	Depth to Top of Restrictive Layer (inches)	Depth to Seasonal High Water Table	Limitations for Development:		
				Dwellings Without Basements*	Dwellings With Basements*	Septic Systems*
RedB	Fragipan, Paralithic Bedrock	24-36, 40-60	1.5	B	C	C
RehA	Paralithic Bedrock	20-40	1	B	C	C
RehB	Paralithic Bedrock	20-33	1	B	C	C
RehC2	Paralithic Bedrock	20-33	1	B	C	C
ROPF	Paralithic Bedrock	0	***	***	***	***
RorAt	***	***	1	C	C	C
RoyB	Paralithic Bedrock	40-72	***	A	A	C
UdrB	***	***	***	A	A	A
UR	***	***	***	***	***	***
WATER	***	***	***	***	***	***
WhpA	***	***	.5	C	C	C

Source: NRCS Soil Data Mart (Dwellings and Small Commercial Buildings for Somerset County, New Jersey)

Source: NRCS Soil Data Mart (Selected Soil Interpretations (ENG-Disposal Field (NJ) for Somerset County, New Jersey)

Source: NRCS Soil Data Mart (Water Features for Somerset County, New Jersey)

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

6.0 Water Resources

6.1 Watershed Management Areas

A watershed is defined as the area of land that drains to a waterway such as a river, stream, lake or wetland. Watershed boundaries are determined by following high points in the terrain such as hills and ridges. Watersheds can be broken down into smaller watersheds, called subwatersheds, which drain to points within the larger watershed. The USGS assigns a Hydrological Unit Code (HUC) to each drainage system. Table 9 lists the watershed management areas in Hillsborough Township.

New Jersey is broken into multiple watershed management areas. Hillsborough Township contains portions of three watershed management areas; Millstone, North and South Branch Raritan, and Lower Raritan and South River and Lawrence. Watershed management areas in Hillsborough Township are shown in Figures 14, 15, 16, and 17.

Table 9					
Watershed Management Areas in Hillsborough Township					
Watershed	USGS Watershed Code (HUC 11 Number)	Stream Classification	Acreage Within Hillsborough Township (acres)	% Within Hillsborough Township	Subwatersheds (HUC 14 Numbers) Within Hillsborough Township
Millstone	2030105110	FW2-NT	20,474.80	58.24%	2030105110060 2030105110080 2030105110090 2030105110100 2030105110110 2030105110140 2030105110150 2030105110160 2030105110170
North and South Branch Raritan	2030105040	FW2-NT	9,797.17	27.87%	2030105030060 2030105040010 2030105040040
Lower Raritan, South River, and Lawrence	2030105080	FW2-NT	4,817.03	13.70%	2030105080020 2030105080030

Source: NJDEP, Bureau of Geographic Information Systems

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 14 Watershed Management Areas and Subwatersheds in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 15 Millstone Watershed Management Area

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 16 North and South Branch Raritan Watershed Management Areas

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Figure 17 Lower Raritan, South River and Lawrence Watershed Management Areas

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

6.2 Streams

The major streams within the Township are the Neshanic River, Royce Brook and Dukes Brook. The Raritan River follows the northern Township boundary line. Headwaters are important, as they contain a diverse ecosystem and they affect downstream water quality. They often serve as spawning or nursery areas for fish, and support the base of the food chain. First and second order streams typically have small base flows, which makes them more likely to be affected by temperature changes and sediment pollution.

6.3 Floodplains

The New Jersey Department of Environmental Protection (NJ DEP) regulates activities within floodplains according to the requirements of the *Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)*. A flood hazard area permit (regulated by N.J.A.C. 7:13) or coastal permit (regulated by N.J.A.C. 7:7 and 7:7E) is required for regulated activities within floodplains.

The Federal Emergency Management Agency (FEMA) designates flood hazard areas on Flood Insurance Rate Maps. They map 100-year floodplains and 500-year floodplains. Zone A is defined as areas with a 1% annual chance of flooding. No depths or base flood elevations are provided. Zone AE is defined as the base floodplain. Base flood elevations are provided. Figure 18 shows the locations of 100-year and 500-year floodplain limits and zones within Hillsborough Township.

6.4 Riparian Zones Within Hillsborough Township

Riparian zones are the areas adjacent to regulated waters (except along the Atlantic Ocean, any manmade lagoon, stormwater management basin, or oceanfront barrier island, spit or peninsula). They are measured landward from the top of bank. If no bank is present, consult the N.J.A.C. 7:13 regulations. The required width for riparian zones depends on the type of regulated waters. Table 10 shows the required riparian zone width for various regulated waters in New Jersey. Note that these riparian zone requirements are separate from and in addition to any other zones or buffers established to protect regulated waters.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 18 FEMA Flood Hazard Areas in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Table 10 Riparian Zone Width Requirements	
Riparian Zone Width (feet)	Regulated Waters
300	Category One water (and the upstream tributaries within the same HUC-14 watershed)
150	Any trout production water and all upstream waters (including tributaries)
150	Any trout maintenance water and all upstream waters (including tributaries) within one linear mile measured along the water.
150	Any segment of water flowing through an area with documented habitat for threatened/endangered species of plant/animal critically dependent on the water for survival and all upstream waters (including tributaries) within one linear mile measured along the water.
150	Any segment of a water flowing through an area with acid producing soils
50	Waters not identified above.

Source: State of New Jersey DEP Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), November 5, 2007, Section 7:13 – 4.1

6.5 Lakes and Ponds

The NJDEP Modified Anderson System 2002 Land Use Land Cover Classification System makes a distinction between Natural Lakes (5200) and Artificial Lakes & Reservoirs (5300). There are 10 artificial lakes and 2 natural lakes in Hillsborough Township, as shown in Table 11.

Natural Lakes include water bodies over 3 acres that are non-flowing and naturally enclosed. They include regulated natural lakes (fed by groundwater and precipitation), but no reservoirs (man made lakes that are typically fed by watercourses). Small lakes range from 1-2 acres. Medium lakes range from 2-10 acres. Large lakes are larger than 10 acres.

Artificial Lakes and Reservoirs include artificial impoundments (with water control structures) over 3 acres used for irrigation, flood control, municipal water supplies, recreation, landscaping, hydro-electric power, cranberry operations, or active extractive operations.

Hillsborough Township Natural Resource Inventory

Table 11 Lakes in Hillsborough Township			
Lake Name/ NJDEP ID	Natural or Artificial (from Land Use)	Acres	USGS Watershed Code (HUC 11 Number)
Lake 819-10	Natural	4.03	02030105110
Lake 2820-10	Artificial	2.01	02030105110
Lake 2662-10	Artificial	4.41	02030105110
Belle Mead Lake-10	Artificial	4.03	02030105110
Lake787-09	Artificial	2.49	02030105080
Lake790-09	Artificial	45.57	02030105080
Lake807-09	Artificial	11.80	02030105080
Lake810-09	Artificial	5.33	02030105080
Lake2698-09	Natural	2.02	02030105080
Lake843-10	Artificial	4.58	02030105110
Lake846-10	Artificial	2.99	02030105110
Lake841-08	Artificial	2.69	02030105030

Source: NJDEP 2004 Integrated Report Lakes, NJDEP Water Assessment Team, 2004. AND NJDEP 2002 Land use/Land cover Update, WMA 8, 9 & 10, NJDEP, ORIM, BGIS, 2008.

6.6 Surface Water Quality and Classification

Water quality is regulated by the Clean Water Act (P.L. 95-217), which requires that water quality standards be suitable for human recreation and for fish, shellfish, and wildlife to thrive and reproduce. The NJDEP classifies all water bodies as freshwater (FW), pinelands water (PL), saline estuarine water (SE), or saline coastal water (SC). Freshwater is divided into waters that originate and are within government lands (FW1) and all others (FW2). Freshwater is also classified as trout-producing (TP), trout-maintaining (TM) or nontrout waters (NT).

All of the major rivers within Hillsborough Township are classified as FW2-NT, which means that they are freshwater streams that are not trout producing or maintaining.

6.7 Water Quality Monitoring in New Jersey

The New Jersey Department of Environmental Protection (NJ DEP) provides two water quality monitoring networks. The Ambient Surface Water Monitoring Network (ASWM) includes 115 stations that monitor for nutrients, bacteria, dissolved oxygen, metals, sediments, chemicals, and other parameters. The Ambient Biomonitoring Network (AMNET) includes 820 monitoring stations that evaluate the health of aquatic life as a biological indicator of water quality.

Hillsborough Township Natural Resource Inventory

6.7.1 Ambient Surface Water Monitoring Network (ASWM)

The Ambient Surface Water Monitoring Network (ASWM) is monitored by the NJDEP and the U.S. Geological Survey (USGS) for water quality parameters. There three stream water monitoring site located along Hillsborough Township boundaries, as shown in Table12. Each of these ASWM sites are also monitored as part of the AMNET monitoring network. The three monitoring sites consist of two types of station categories, Watershed Integrator and Statewide Status. Watershed Integrator (WSI) is a station located at the downstream section of a watershed and used as an indicator of water quality for that watershed. Statewide Status (SS) is a station chosen randomly from existing AMNET stations and used to indicate the status of the state’s waters.

Site ID	Station Name/ Waterbody	AMNET ID	Seasons Sampled	Station Category
01398102	South Branch Raritan River at South Branch	AN0341	1998- 2009	WSI
01402000	Millstone River at Blackwells Mills	AN0410	1998- 2009	WSI
01401560	Rock Brook at Zion	AN0399	2001	SS

Source: Ambient Stream Water Quality Monitoring Sites (1998-2010), NJDEP, BFBM, 2008

6.7.2 NJDEP Supplemental Ambient Surfacewater Monitoring Network (SASMN)

The Supplemental Ambient Surfacewater Monitoring Network (SASMN) project was designed to provide additional data to support water management and monitoring activities within New Jersey. There are no SASMN sites within the Township; however, Figure 19 shows the locations of nearby monitoring sites.

6.7.3 Ambient Biomonitoring Network (AMNET)

The Ambient Biomonitoring Network (AMNET) is monitored by the NJDEP. They evaluate the health of in-stream benthic macroinvertebrate communities using the EPA’s Rapid Bioassessment Protocol (RBP) 2. The program was reactivated in 1992 with expanded monitoring sites, sampled on a rotational schedule of once every 5 years; three rounds of sampling have been completed to date. Biological impairment scores for each of the six AMNET sites in Hillsborough Township are provided in Table 13. The NJ Impairment Score is rated where 0-6 is severely impaired, 9-21 is moderately impaired, and 24-30 is non-impaired.

All of the Hillsborough Township AMNET monitoring sites were ranked moderately impaired for all sampling rounds, with the exception of Pike Run, which ranked not impaired during the most recent round of AMNET monitoring.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 19 Surface Water Quality Monitoring & Standards for Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Site ID	Station Name/ Waterbody	Round 1 Impairment Score	Round 2 Impairment Score	Round 3 Impairment Score
AN0412	Royce Brook Br	9	12	12
AN0375	Dukes Brook	9	21	12
AN0337	Neshanic River	12	18	21
AN0402	Pike Run	18	18	24
AN0411	Royce Brook	21	21	18
AN0410	Millstone River	15	15	15

Source: NJDEP Ambient Biomonitoring Network (AMNET) 2004, NJDEP, BFBM, 2005

6.8 Subwatershed Impairment (HUC 14)

Impaired waters within New Jersey are identified in the 2008 Section 303(d) List of Impaired Waterbodies located in the 2008 New Jersey Integrated Water Quality Monitoring and Assessment Report (July 2009). Total Maximum Daily Loads (TMDLs) identify sources of pollution and set load reductions to meet surface water quality standards. Section 303(d) of the federal Clean Water Act requires TMDLs to be developed by the NJDEP. Priority ranking is based on the priority for TMDL development. High Priority (H) assessments will be completed within two years, Medium Priority (M) assessments will be completed in the near future, but not before two years, and Low Priority (L) assessments are not expected to be completed in the near future. Table 14 provides a list of 303(d) Listed waters in Hillsborough Township along with their priority ranking.

6.9 Surface Water Discharges

The New Jersey Pollution Discharge Elimination System (NJPDES) is implemented by the NJDEP Division of Water quality pursuant to the NJDES regulations in N.J.A.C. 7:14A. The NJPDES protects surface water and ground water quality through the proper treatment and discharge of wastewater and stormwater. Permits are issued limiting the discharge of pollutants from regulated facilities ranging from small discharges like schools or shopping centers to larger facilities such as industrial complexes and municipal wastewater dischargers.

Hillsborough Township Natural Resource Inventory

Table 14			
303(d) List of Water Quality Limited Waters with Priority Ranking			
Watershed Code	Assessment Unit Name	Parameter	Priority Ranking
02030105030060-01	Neshanic River (below FNR/SNR confluence)	pH	M
02030105030060-01	Neshanic River (below FNR/SNR confluence)	Phosphorus	H
02030105030060-01	Neshanic River (below FNR/SNR confluence)	Arsenic	M
02030105040010-01	Raritan R SB (Pleasant Run - Three Bridges)	Phosphorus	H
02030105040010-01	Raritan R SB (Pleasant Run - Three Bridges)	Arsenic	M
02030105040040-01	Raritan R SB (NB to Pleasant Run)	Phosphorus	H
02030105040040-01	Raritan R SB (NB to Pleasant Run)	Arsenic	M
02030105080030-01	Raritan R Lwr (Millstone to Rt 206)	Cause Unknown	L
02030105110080-01	Pike Run (above Crusier Brook)	Cause Unknown	L
02030105110100-01	Pike Run (below Crusier Brook)	Phosphorus	H
02030105110110-01	Millstone R (Blackwells Mills to Deden Bk)	Phosphorus	H
02030105110110-01	Millstone R (Blackwells Mills to Deden Brook)	Arsenic	M
02030105110140-01	Millstone R (Amwell Rd to Blackwells Mills)	Phosphorus	H
02030105110140-01	Millstone R (Amwell Rd to Blackwells Mills)	Arsenic	M
02030105110150-01	Royce Brook (above Branch Royce Brook)	Cause Unknown	L
02030105110160-01	Royce Brook (below/including Branch Royce Brook)	Cause Unknown	L
02030105110170-01	Millstone River (below Amwell Rd)	pH	H
02030105110170-01	Millstone River (below Amwell Rd)	Phosphorus	H

Source: New Jersey's 2008 303(d) List of Water Quality Limited Waters with Priority Ranking, July 2009

Hillsborough Township Natural Resource Inventory

6.10 Suggested Practices for Surface Water Quality Protection

There are many causes of impairment for surface waters within Hillsborough Township. The most notable causes include stormwater runoff, impervious coverage, and inadequate stream buffers.

6.10.1 Stormwater Runoff

Stormwater runoff and other nonpoint source pollution (pollution that is produced by a wide variety of sources) have a large impact on water quality. Pollutants from stormwater runoff come from paved surfaces, farmland, and erosion.

The most effective way of preventing excessive stormwater runoff and nonpoint source pollution in the future is to regulate development by implementing a Stormwater Management Ordinance for new developments. The most effective ways of reducing existing stormwater runoff and other nonpoint source pollution is to identify contributing areas and to implement appropriate Best Management Practices (BMPs).

6.10.2 Impervious Coverage

Impervious coverage is any surface that impedes the flow of water into the soil. Examples include roadways, buildings, and parking lots. Impervious coverage causes stormwater to runoff, and can concentrate and cause erosion. It also can contribute pollutants such as roof tar, car discharges such as oil and antifreeze, and salt. Because of the nature of impervious coverage, it can also cause the temperature of stormwater runoff to increase, which can negatively affect streams.

The most effective way of preventing excessive impervious coverage is by limiting allowable coverages for new developments. Roads, driveways and parking lots can be designed to the minimum required area. Also, BMPs such as pervious pavement or pervious concrete can be implemented to allow the infiltration and percolation of stormwater into the soil.

6.10.3 Inadequate Stream Buffers

A stream buffer is the area adjacent to both sides of a stream. They are important as they limit sediment, pollutants and nutrients into the stream, mainly because of the plant material and soils. Stream buffers also stabilize streambanks, collect pollutants and sediment before they enter the stream, and provide corridors for wildlife.

The most effective way of preventing inadequate stream buffers is to limit the amount of disturbance for new developments. For inadequate buffers that already exist, restoration of these buffers will improve water quality. Stream buffers with the highest quality have a diverse variety of plant species and types.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

7.0 Wetlands

Wetlands are defined by the 1987 Corps of Engineers Wetlands Delineation Manual as “Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” Wetlands are important because they provide food sources and habitat (especially for endangered or threatened plant and animal species), prevent erosion, preserve biological diversity, help control flooding, filter and absorb pollutants, and provide outdoor recreation.

7.1 Land Use/Land Cover Classification System (NJDEP Modified Anderson System 2002)

Wetlands and Agricultural Wetlands can be found scattered throughout Hillsborough Township. The majorities of wetlands occur along streams and are clustered within the northeast and southwest sections of the Township. Descriptions of the different types of wetlands within Hillsborough Township are provided below, and are based on the NJDEP Modified Anderson System 2002 Land Use Land Cover Classification System. Table 15 provides detailed information on the areas of different types of wetlands within Hillsborough Township. Figure 20 shows the locations of different types of wetlands within Hillsborough Township.

7.2 Natural Wetlands

Deciduous Wooded Wetlands (6210)

This vegetation type includes wetlands typically associated with watercourses, marshes and isolated wetlands and are dominated by deciduous trees. It includes deciduous species such as *Acer rubrum*, *Nyssa sylvatica*, *Fraxinus pensylvanica*, *Salix nigra*, *Quercus bicolor*, *Quercus phellos*, *Quercus falcate*, *Liquidambar styraciflua*, and *Platanus occidentalis*.

Coniferous Wooded Wetlands (6220)

This vegetation type includes wetlands typically associated with watercourses, seeps, and low land and are dominated by coniferous trees. It includes species such as *Tsuga Canadensis*, *Larix laricina*, *Picea mariana*, *Pinus rigida*, *Pinus taeda*.

Hillsborough Township Natural Resource Inventory

Table 15			
Wetlands Within Hillsborough Township			
Category Code	Land Use Land Cover Classification System Category Name (NJDEP Modified Anderson System 2002)	Area within Hillsborough Township (acres)	% Within Hillsborough Township
Natural Wetlands			
6210	Deciduous Wooded Wetlands	3,204.58	9.12%
6220	Coniferous Wooded Wetlands	32.61	0.09%
6240	Herbaceous Wetlands	295.10	0.84%
6241	Phragmites Dominate Interior Wetlands	2.46	0.01%
Natural Wetlands Total		3,534.75	10.05%
Natural Wetlands - Mixed Wood Wetlands			
6251	Mixed Wooded Wetlands (Deciduous Dominant)	55.03	0.16%
6252	Mixed Wooded Wetlands (Coniferous Dominant)	19.62	0.06%
Mixed Wooded Wetlands Total		74.65	0.21%
Natural Wetlands - Scrub/Shrub Wetlands			
6231	Deciduous Scrub/Shrub Wetlands	333.52	0.95%
6232	Coniferous Scrub/Shrub Wetlands	89.14	0.25%
6233	Mixed Scrub/Shrub Wetlands (Deciduous Dominant)	184.68	0.53%
6234	Mixed Scrub/Shrub Wetlands (Coniferous Dominant)	114.10	0.32%
Scrub/Shrub Wetlands Total		721.43	2.05%
Managed or Disturbed Wetlands			
7430	Disturbed Wetlands	141.49	0.40%
1750	Managed Wetlands in Maintained Lawn Greenspace	63.79	0.18%
1850	Managed Wetlands in Built-Up Maintained Recreation Areas	38.75	0.11%
1461	Wetland Rights-of-Way	85.43	0.24%
Managed or Disturbed Wetlands Total		329.47	0.94%
Agricultural and Former Agricultural Wetlands			
2140	Agricultural Wetlands	800.87	2.28%
2150	Former Agricultural Wetland (Becoming Shrubby, Not Built-Up)	39.24	0.11%
Agricultural and Former Agricultural Wetlands Total		840.11	2.39%
Total Wetlands Within Hillsborough Township		5,500.40	15.65%

Source: NJDEP Wetlands of Somerset County, New Jersey, 1986, NJDEP, OIRM, BGIA, 1999

Hillsborough Township Natural Resource Inventory

Figure 20 Surface Water and Wetlands in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Scrub/Shrub Wetlands (includes 6231 – Deciduous Brush and Bog Wetlands, 6232 – Coniferous Brush and Bog Wetlands, 6233 – Mixed Brush and Bog Wetlands with Deciduous Dominant, and 6234 – Mixed Brush and Bog Wetlands with Coniferous Dominant)

This vegetation type includes brush and bog wetlands that contain mostly young saplings of deciduous and/or coniferous species. They include deciduous tree species such as *Acer rubrum*, *Acer negundo*, *Liquidambar styraciflua*, *Alnus serrulata*, *Cornus stolonifera*, and *Cornus amomum* and deciduous shrub species such as *Vaccinium corymbosum*, *Vaccinium macrocarpon*, *Spiraea alba*, *Viburnum dentatum*, *Rosa palustris*, *Myrica Pennsylvania*, *Myrica gale*, *Clethra alnifolia*, *Cephalanthus occidentalis*, and *Rhododendron viscosum*. They include coniferous tree species such as *Pinus rigida*, *Larix laricina*, *Tsuga Canadensis*, *Picea mariana*, and coniferous shrub species such as *Chamaedaphne calyculata*, and *Kalmia angustifolia*. Dominant categories contain greater than 50% of either deciduous or coniferous species, but less than 75 percent.

Herbaceous Wetlands (6240)

This vegetation type includes wetlands that are not associated with tidal waters. They can be found along lake edges, in open flood plains and within abandoned wetland agricultural fields. It includes species such as *Leersia oryzoides*, *Phalaris arundinacea*, *Nuphar lutea*, *Polygonum arifolium*, *Polygonum sagittatum*, *Typha latifolia*, and *Phragmites*.

Phragmite Dominate Interior Wetlands, 2002 (6241)

This vegetation type includes fresh marsh areas that contain *Phragmites australis*.

Mixed Wooded Wetlands (includes 6251 – Mixed Wooded Wetland with Deciduous Prevalent and 6252 – Mixed Wooded Wetlands with Coniferous Prevalent)

This vegetation type includes mixed wooded wetlands that contain either deciduous or coniferous tree species greater than 50 percent but less than 75 percent.

7.3 Managed or Disturbed Wetlands

Disturbed Wetlands (7430)

These wetlands have been altered by clearing, leveling, grading, filling and/or excavating, but still have signs of soil saturation. They typically do not support wetland vegetation. They include hydric soils shown on US Soil Conservation Service soil surveys.

Managed Wetlands in Built-up Maintained Recreation Areas (1850)

These wetlands include natural wetlands that are within an altered managed recreational area, but still have signs of soil saturation. They typically do not support wetland vegetation. They include hydric soils shown on US Soil Conservation Service soil surveys. Examples include golf courses and ball fields.

Managed Wetlands in Maintained Lawn Greenspace (1750)

These wetlands include natural wetlands that are within an altered managed landscape, but still have signs of soil saturation. They do not support wetland vegetation, and are typically planted with mowed grasses. They include hydric soils shown on US Soil Conservation Service soil surveys. Examples include lawns and storm water swales.

Hillsborough Township Natural Resource Inventory

Wetlands Rights-of-Way (1461)

These wetlands include wetlands that contain a right-of-way, but still have signs of soil saturation. Rights-of-way may require alterations and periodic clearing. They may not support wetland vegetation. They include hydric soils shown on US Soil Conservation Service soil surveys.

7.4 Agricultural and Former Agricultural Wetlands

Agricultural Wetlands (2140)

These wetlands include wetland areas that have been altered by cultivation, but still have signs of soil saturation. They include hydric soils shown on US Soil Conservation Service soil surveys. Cranberry farmland was included in the 2002 update.

Former Agricultural Wetlands – Becoming Shrubby, not Built-up (2150)

These wetlands include agricultural wetlands that are not under cultivation, and are going through succession. They have not been altered by filling, grading or development.

7.5 Wetland Resource Value Classification

Freshwater wetlands are classified into three categories based on the resource value; freshwater wetland of exceptional resource value, freshwater wetland of ordinary resource value, and freshwater wetland of intermediate resource value.

Freshwater Wetland of Exceptional Resource Value

A freshwater wetland of exceptional resource value (or exceptional resource value wetland) includes any wetland that discharges into FW1 or FW2 trout protection waters (or their tributaries), is currently a habitat for threatened/ endangered species, or is a documented habitat for threatened/endangered species and is suitable for breeding, resting, or feeding during the time when those species would utilize the habitat.

Freshwater Wetland of Ordinary Resource Value

A freshwater wetland of ordinary resource value (or exceptional resource value wetland) includes any freshwater wetland that is not a freshwater wetland of exceptional resource value and is an isolated wetland as stated in N.J.A.C. 7:7A – 1.4 and 2.4.

Freshwater Wetland of Intermediate Resource Value

A freshwater wetland of intermediate resource value (or intermediate resource value wetland) includes any freshwater wetland that is not exception or ordinary as stated above.

7.6 NJ Freshwater Wetlands Protection Act regulations (N.J.A.C. 7:7A)

A permit is required by the NJ DEP for any regulated activities occurring within wetlands according to the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A).

Hillsborough Township Natural Resource Inventory

8.0 Air Quality

Hazardous air pollutants cause or may cause health problems such as cancer, reproductive effects, and/or birth defects or may cause adverse environmental and/or ecological effects. There are a total of 187 hazardous air pollutants that EPA is required to control. Most air pollutants come from human sources. Mobile sources (cars, trucks, buses, etc.), stationary sources (factories, refineries, etc.), and indoor sources (building materials and cleaning activities) contribute the majority of air pollutants.

8.1 National “Clean Air” Standards

The USEPA is required by the Clean Air Act to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. There are two types of standards; primary standards and secondary standards. Primary standards set limits to protect public health (protecting children, the elderly, etc.). Secondary standards set limits to protect public welfare (protecting animals, vegetation, etc.). The EPA Office of Air Quality and Planning Standards (OAQPS) has set National Ambient Air Quality Standards for six criteria pollutants; Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter, Ozone, and Sulfur Dioxide.

8.2 Regional and Local Air Monitoring Sites and Statistics

Ambient Air Quality Monitors are located throughout New Jersey to collect air pollutant data. The data is then analyzed to verify that pollutants are in compliance with the National Ambient Air Quality Standards. If pollutants exceed accepted levels, the public is notified.

There is one ambient air quality monitor near Hillsborough Township, located just outside the northwest corner of the Township. This monitoring site is named Flemington (Aerometric Information Retrieval System Code #340190001) and is located in Hunterdon County at the Raritan Township Sewage Treatment Plant in Three Bridges. This monitoring site contains an Ozone analyzer, Smoke Shade analyzer, and Continuous PM_{2.5} analyzer. It also collects meteorological parameters (wind speed, barometric pressure, etc.).

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

9.0 Land Use/Land Cover

Hillsborough Township consists of many land use cover types including: urban/residential, forests, agriculture, open water, wetlands, and barren land. The Anderson Land Use Classification was created by the USGS, and provides definitions of land covers and vegetation types. The acreages associated with each land use cover type is presented below in Table 16. For more information on wetland land cover types, see the Wetland section of this report. For more information on forested land cover types, see the Wildlife and Plants section of this report. Figure 21 is a land use/land cover map for Hillsborough Township.

Table 16			
Land Use/Land Cover Areas Within Hillsborough Township			
Category Code	Land Use Land Cover Classification System Category Name (NJDEP Modified Anderson System 2002)	Area within Hillsborough Township (acres)	% Within Hillsborough Township
Urban or Built-Up Land			
1110	Residential, High Density or Multiple Dwelling	492.93	1.40
1120	Residential, Single Unit, Medium Density	909.71	2.59
1130	Residential, Singel Unit, Low Density	2,291.97	6.52
1140	Residential, Rural, Single Unit	3,924.16	11.16
1200	Commercial/Services	458.38	1.30
1211	Military Installations	388.31	1.10
1300	Industrial	354.31	1.01
1400	Transportation/Communication/Utilities	184.85	0.53
1440	Airport Facilities	47.42	0.13
1462	Upland Rights-of-Way Developed	39.15	0.11
1463	Upland Rights-of-Way Undeveloped	203.16	0.58
1499	Stormwater Basin	164.06	0.47
1500	Industrial/Commercial Complexes	17.52	0.05
1700	Other Urban or Built-Up Land	802.28	2.28
1710	Cemetary	69.46	0.20
1800	Recreational Land	911.20	2.59
1804	Athletic Fields (Schools)	117.87	0.34
Urban or Built-Up Land Total		11,376.74	32.36
Agricultural Land			
2100	Cropland and Pastureland	7,736.28	22.01
2200	Orchards/Vineyards/Nurseries/Horticultural Areas	189.62	0.54
2300	Confined Feeding Operations	3.09	0.01
2400	Other Agriculture	362.83	1.03
Agricultural Land Total		8,291.82	23.59
Forestland			
Forestland Total		9,090.17	25.86%

Hillsborough Township Natural Resource Inventory

Table 16			
Land Use/Land Cover Areas Within Hillsborough Township			
Water			
5100	Streams and Canals	219.42	0.62
5200	Natural Lakes	6.60	0.02
5300	Artificial Lakes	124.28	0.35
1419	Bridge Over Water	1.31	0.00
Water Total		351.62	1.00
Wetlands			
Wetlands Total		5,500.40	15.65
Barren Land			
7300	Extractive Mining	261.17	0.74
7400	Altered Lands	34.09	0.10
7500	Transitional Areas	249.45	0.71
Barren Land Total		544.71	1.55

Source: NJDEP 2002 Land use/Land cover Update, WMA 8, 9, & 10, NJDEP, ORIM, BGIS, 2008

Hillsborough Township Natural Resource Inventory

Figure 21 2002 Land Use/Land Cover for Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

9.1 Urban or Built-Up Land

Urban or built-up land includes all land that has been altered by human activities. It includes residential, commercial and service, industrial, transportation, communication and utilities, industrial and commercial complexes, mixed urban or built-up, other urban or build-up and recreational categories.

9.2 Agricultural Land

Agricultural land includes land that has been used primarily for the production of food and fiber. It includes cropland and pastureland, orchards, vineyards, nurseries and horticultural areas, confined feeding operations, and other environmental concern categories.

9.3 Forestland

Forestland includes land that is covered by woody vegetation other than wetlands. It includes deciduous, coniferous, mixed deciduous-coniferous, and brushland. For more detailed information about the forestland in Hillsborough Township, see the Wildlife and Plants section in this report.

9.4 Water

Water includes all areas that are periodically covered with water. It includes streams and canals, natural lakes, artificial lakes, and bays and estuaries. For more detailed information about the waters within Hillsborough Township, see the Water Resources section of this report.

9.5 Wetlands

Wetlands include all areas that are classified as natural wetlands. It includes naturally vegetated swamps, marshes, bogs and savannas. For more detailed information about the wetlands within Hillsborough Township, see the Wetland section of this report.

9.6 Barren Land

Barren land includes lands with thin soil, sand or rocks and lack vegetative cover. It includes beaches, rock faces, extraction mining operations, landfills, and other disposal sites.

9.7 Hillsborough Township Preserved Open Space Areas

Hillsborough Township contains a total of approximately 10,199 acres (29% of the Township) of preserved open space. Approximately 3,402 acres of this preserved open space (9.68% of the Township) are preserved parks, greenways, and recreation areas and approximately 3,047 acres (8.67% of the Township) are preserved farms. Figure 22 shows the location of all preserved open space lands in Hillsborough Township. Appendix A includes detailed descriptions of preserved areas within Hillsborough Township.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 22 Preserved Open Space Lands in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

9.7.1 State Preserved Open Space Areas

State-Protected Open Spaces include open space and recreation areas owned by the NJDEP. These areas can include parks, forests, historic sites, natural areas and wildlife management areas. Approximately 955 acres (2.72% of the Township) are state protected lands. Of these, 11.85 acres are state rights-of-way, 508 acres are unspecified state land, 194 acres are state parks, and 122 acres are confluence/reservoir open space.

9.7.2 County Preserved Open Space Areas

Approximately 3,153 acres (8.97% of the Township) are County preserved land, the majority of which are parks.

9.7.3 Local Preserved Open Space Areas

Hillsborough Township detention basins occupy approximately 3 acres (0.01% of the Township) of preserved township land. There are approximately 396 acres (1.13% of the Township) of Township parks, greenways, and recreation areas. There are also approximately 2,645 acres (7.52% of the Township) of unspecified preserved Township land.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

10.0 Wildlife and Plants

10.1 The NJDEP Bureau of Freshwater Fisheries

The NJDEP Bureau of Freshwater Fisheries is responsible for New Jersey’s freshwater fisheries resources and programs. Their responsibilities include the propagation, protection and management of freshwater fisheries and promoting their recreational use. They raise and distribute over 2.7 million fish per year, conduct research and management surveys, classify waterways, provide technical input for watershed and habitat-based issues, facilitate habitat restoration projects, and administer permits.

10.2 Plant Communities of Hillsborough Township

The Anderson Land Use Classification was created by the USGS, and provides definitions of land covers and vegetation types. Below are descriptions of the major plant communities contained within Hillsborough Township. For descriptions and areas of wetland plant communities, see the Wetland section in this report. Plant communities in Hillsborough are shown in Figure 23. For a breakdown of the areas associated with each plant community discussed below, see Table 17.

Category Code	Land Use Land Cover Classification System Category Name (NJDEP Modified Anderson System 2002)	Area within Hillsborough Township (acres)	% Within Hillsborough Township
4110	Deciduous Forest (10-50% Crown Closure)	788.77	2.24
4120	Deciduous Forest (>50% Crown Closure)	5,127.27	14.58
4210	Coniferous Forest (10-50% Crown Closure)	48.26	0.14
4220	Coniferous Forest (>50% Crown Closure)	172.03	0.49
4230	Plantation	24.13	0.07
4311	Mixed Forest (>50% Coniferous with 10-50% Crown Closure)	58.48	0.17
4312	Mixed Forest (>50% Coniferous with >50% Crown Closure)	166.15	0.47
4321	Mixed Forest (>50% Deciduous with 10-50% Crown Closure)	71.75	0.20
4322	Mixed Forest (>50% Deciduous with >50% Crown Closure)	198.45	0.56
4410	Old Field (< 25% Brush Covered)	551.19	1.57
4420	Deciduous Brush/Shrubland	222.47	0.63
4430	Coniferous Brush/Shrubland	907.55	2.58
4440	Mixed Deciduous/Coniferous Brush/Shrubland	753.67	2.14
Forestland Total		9,090.17	25.86

Source: NJDEP 2002 Land use/Land cover Update, WMA 8, 9 & 10, NJDEP ORIM BGIS, 2008

Hillsborough Township Natural Resource Inventory

Deciduous Forestland (includes 4110 – Deciduous, 10-50% Crown Closure and 4120 – Deciduous > 50% Crown Closure)

This vegetation type includes stands of deciduous trees (over 75% of canopy coverage is deciduous) that are at least 20 feet tall. Deciduous trees are those that lose their leaves in fall and winter.

Coniferous Forestland (includes 4210 – Coniferous, 10-50% Crown Closure, 4220 – Coniferous, > 50% Crown Closure, and 4230 – Plantation)

This vegetation type includes stands of coniferous trees (over 75% of canopy coverage is deciduous) that are at least 20 feet tall. Coniferous trees are those that retain their leaves (needles) over the winter. This section also includes plantations of timber that were planted. It does not include Christmas tree farms.

Hillsborough Township Natural Resource Inventory

Mixed Forestland (Level II) (includes 4311 – Mixed with Coniferous Prevalent (10-50% Crown Closure), 4312 – Mixed with Coniferous Prevalent (>50% Crown Closure), 4321 – Mixed with Deciduous Prevalent (10-50% Crown Closure), and 4322 – Mixed with Deciduous Prevalent (>50% Crown Closure).

This vegetation type includes a mixture of deciduous and coniferous trees (less than 75% of canopy coverage is either deciduous or coniferous) over 20 feet tall.

Old Field (<25% Brush Covered)

This vegetation type includes open areas with less than 25% brush cover. The major cover types are grasses, herbaceous plants, seedlings and/or saplings. This category covers fields that would need extensive brush removal before plowing. If there is <5% of woody stems, it would be part of the inactive farmland category.

Deciduous Brush/Shrubland (>25% Brush Covered with Deciduous Species Predominant > 75%)

This vegetation type includes natural forests with deciduous forest species less than 20 feet tall and which have over 25% brush cover.

Coniferous Brush/Shrubland (>25% Brush Covered with Coniferous Species Predominant > 75%)

This vegetation type includes natural forests with coniferous forest species less than 20 feet tall and which have over 25% brush cover.

Mixed Deciduous and Coniferous Brush/Shrubland (>25% Brush Covered with a Mixture of Deciduous Coniferous Species; <75% of One Type)

This vegetation type includes natural forests with a mixture of deciduous and coniferous species less than 20 feet tall and which have over 25% brush cover.

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 23 Plant Communities in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

10.3 Landscape Project Priority Habitats

The Endangered and Nongame Species Program of the NJDEP Division of Fish & Wildlife created the Landscape Project to categorize the value of habitats within New Jersey. There are five groups, with five having the highest importance. The priority ranking is based on the conservation status of a species where 1 = suitable, 2 = priority concern, 3 = state threatened, 4 = state endangered, and 5 = federally listed. Categories 3-5 (critical habitat) include habitats with a documented occurrence of one or more federal or state threatened and endangered species and have enough habitat to sustain the species. Categories 1 and 2 (suitable habitat) have either a documented occurrence of a *species of special concern* or is habitat suitable for state or federal threatened and endangered species (but not a documented occurrence). Table 18 lists landscape project habitat rankings for Hillsborough Township. Figure 24 shows landscape project habitat conservation priorities in Hillsborough Township for the locations of different habitats.

Category	Rank	Acreage Within Hillsborough Township (acres)	Percent Within Hillsborough Township
Emergent Wetlands	Suitable Habitat (2)	1,350.78	3.84
	Suitable Habitat (3)	26.83	0.08
	Critical Habitat (4)	7.64	0.02
Forested Wetlands	Suitable Habitat (2)	3,455.53	9.83
	Suitable Habitat (3)	559.71	1.59
	Critical Habitat (4)	16.54	0.05
Upland Forest	Suitable Habitat (2)	6,100.73	17.35
	Suitable Habitat (3)	649.03	1.85
	Critical Habitat (4)	6,463.49	18.39
Grassland	Suitable Habitat (1)	1,796.12	5.11
	Suitable Habitat (2)	1,618.56	4.60
	Suitable Habitat (3)	1,714.06	4.88
	Critical Habitat (4)	2,175.04	6.19

Source: NJDEP Bald Eagle Foraging Version 2.1, NJDEP Division of F & W, ENSP, 2007

Source: NJDEP Wood Turtle Version 2.1, NJDEP Division of F & W, ENSP, 2007

Source: NJDEP Emergent Wetlands Version 2.1, NJDEP Division of F & W, ENSP, 2007

Source: NJDEP Forested Wetlands Version 2.1, NJDEP Division of F & W, ENSP, 2007

Source: NJDEP Forest Version 2.1, NJDEP Division of F & W, ENSP, 2007

Source: NJDEP Grassland Version 2.1, NJDEP Division of F & W, ENSP, 2007

Hillsborough Township Natural Resource Inventory

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Hillsborough Township Natural Resource Inventory

Figure 24 Landscape Project Habitat Conservation Priorities in Hillsborough Township

Hillsborough Township Natural Resource Inventory

Hillsborough Township Natural Resource Inventory

Wetland Habitat

The Landscape Project divides wetlands into forested and emergent wetlands. Emergent wetlands are those that contain shrubs and herbaceous plants in standing water. They are important habitat for endangered turtles, rare fish, mollusks, crustaceans, insects, migratory waterfowl, and passerines (smaller birching birds). Forested wetlands are important habitat for migratory and nesting warblers and rare amphibians (frogs and salamanders).

Upland Forest Habitat

Upland Forest Habitat includes species that live within upland forests. Within the different forest layers (herbaceous, shrub, and tree), there are many different types of habitat for a range of species. It is especially important habitat for bald eagles.

Grassland Habitat

Grassland Habitat provides habitat for the most threatened group of species in New Jersey (mostly birds). They are important habitat for the grasshopper sparrow, vesper sparrow, butterflies, moths, and bog turtles.

Grassland habitat patches (areas of habitat) within New Jersey have to be a minimum of 18 hectares or greater to support the necessary wildlife and plants. Within group 1, 19 of the grassland habitat patches (100% of the patches in Hillsborough Township) met this requirement. Group 2 has 30 patches (38%), group 3 has 5 patches (63%), and group 4 has 6 patches (50%).

Bald Eagle Foraging Habitat

Bald Eagle Foraging Habitat is the area of habitat required to support one nesting pair of bald eagles throughout the year. Knowing what habitat is required is the first step in planning, protecting, and providing land management programs for the protection of bald eagles. The Bald Eagle Foraging Habitat is not used to value habitat patches (areas of habitat).

Wood Turtle Critical Habitat

Wood Turtle Critical Habitat is determined through a four-step process. A 322 meter buffer is provided around all streams within one mile of a wood turtle sighting location. Then, this buffer is reduced to one mile around the sighting areas. The land use/land cover is overlaid, and urban areas (except for undeveloped upland rights-of-way) are deleted from the buffer area. Wetlands areas are overlaid on the stream buffers. Any wetlands that are contiguous with the buffer area are included (within the one mile of the sighting). Once the buffer area is thus determined, a staff turtle biologist conducts a detailed inspection, and revises the buffer area to ensure biological accuracy. The Wood Turtle Critical Habitat is not used to value habitat patches (areas of habitat).

10.4 Endangered and Threatened Plant and Animal Species of New Jersey

Federal and New Jersey state governments regulate endangered and threatened plant and animal species within Hillsborough Township. The Endangered Species Act (ESA) establishes that endangered and threatened species “are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.” The New Jersey Endangered and Nongame Species Conservation Act of 1973 (N.J.S.A. 23:2A) prohibits the taking, possessing, transporting, exporting, processing, selling or shipping of a threatened or endangered species.

Hillsborough Township Natural Resource Inventory

The Endangered Plant Species List Act (N.J.S.A. 13:1B) establishes a New Jersey state list of endangered plants.

Threatened species are those who have the potential to be endangered if conditions deteriorate. They are typically vulnerable from causes such as small population size, restricted range, significant population decline, etc.

Endangered species are those whose survival in New Jersey is in immediate danger. Causes may include the loss of habitat, degradation/change of habitat, predation, competition, disease, environmental pollution, disturbance, etc. An endangered species will likely go extinct without immediate action. The primary threat to species in New Jersey is the loss and /or degradation of habitat.

New Jersey state listed threatened and endangered animal species are provided in Appendix B. The New Jersey Endangered Plant Species List (N.J.A.C. 7:5C) is provided in Appendix C. For more detailed information about a particular species, visit the NJDEP Division of Fish & Wildlife website. They also provide Recovery Plans that outline strategies for preventing extinction of a particular species.

10.5 Recommendations for Protection of Endangered and Threatened Plant and Animal Species

Natural diversity is important for the whole of our ecosystem. No one can predict how the extinction of a species will affect an ecosystem, but the loss can set off a chain reaction with negative consequences. Diversity allows an ecosystem to better evolve and adapt to a changing environment. There are many contributions that a species can make; inclusion in the food chain, benefits to medical science, benefits to agriculture and human health (by biological controls), economic value through ecotourism and recreation, and more. It is therefore extremely important that we as a nation do whatever we can to protect endangered and threatened plants and animal species.

Hillsborough Township residents can help protect endangered and threatened plant and animal species by performing the following tasks:

- Identify species within your property or Township. If you learn you have a listed species, contact the New Jersey Field Office for information on how to protect it.
- Conserve native species and their habitats through conservation easements, deed restrictions, and/or limiting construction activities.
- Improve and restore degraded habitat within your property or Township.
- Respect federal and state wildlife laws. Do not collect or destroy wild plants or animals.
- Report suspected violations of federal and state laws by contacting the appropriate federal or state agency.
- Reduce pollution within your property or Township. Dispose of chemicals properly; do not dump them down your sink or into a storm drain.
- Reduce, reuse, and recycle.
- Do not litter, as this can harm fish, mammals, and other species.
- Support the New Jersey Endangered and Nongame Species Program (ENSP).

Hillsborough Township Natural Resource Inventory

10.6 Potential and Confirmed Vernal Pool Habitats

Vernal Pools are natural or manmade confined wetland depressions. They hold water for at least two consecutive months of the year. They are unique ecosystems that provide habitat for many species of amphibians, insects, reptiles, plants and more. Because they cannot support fish, they have a more diverse population, as the fish would feed on eggs and larvae. Vernal pools can be found in upland forests, meadows, swamps, gravel pits and quarries. Table 19 provides more detailed information on the vernal pools located within Hillsborough Township. To view mapping of vernal pools within New Jersey, visit <http://www.dbcrrsa.rutgers.edu/ims/vernal/graphics.htm>.

Table 19			
Vernal Pools Within Hillsborough Township			
Vernal Pool ID	Certified Vernal Pool	Universal Transverse Mercator X	Universal Transverse Mercator Y
1246ped	No - not surveyed	520941	4483847
12530ped	Certified	521285	4477116
12564ped	No - not surveyed	523905	4480275
12565ped	No - not surveyed	523672	4480521
12566ped	No - not surveyed	524423	4480411
12567ped	No - not surveyed	523755	4480615
12568ped	No - not surveyed	524439	4480746
12569ped	Certified	521420	4477117
12570ped	No - not surveyed	521035	4477171

Source: Grant F. Walton Center for Remote Sensing and Spatial Analysis at Rutgers University (CRSSA). "Mapping New Jersey's Vernal Ponds." 5 August 2004
<http://www.dbcrrsa.rutgers.edu/ims/vernal/>

The purpose of the Vernal Pool Survey Project in New Jersey is to map and inventory vernal pools and to identify the status, range and distribution of obligate vernal pool amphibians. Obligate Vernal Pool Breeders are amphibians that are dependent on vernal pool habitat. Facultative Vernal Pool Breeders are amphibians that use the vernal pools for breeding, but can also successfully reproduce in habitats that have fish. These New Jersey species are listed in Table 20.

Hillsborough Township Natural Resource Inventory

Table 20		
Obligate and Facultative Vernal Pool Breeding Amphibians of New Jersey		
Obligate Vernal Pool Breeding Amphibians:		
Common Name	Scientific Name	Status
Eastern tiger salamander	<i>Ambystoma t. tigrinum</i>	Endangered
Marbled salamander	<i>A. opacum</i>	Special Concern
Spotted salamander	<i>A. maculatum</i>	
Jefferson salamander	<i>A. jeffersonianum</i>	Special Concern
Blue-spotted salamander	<i>A. laterale</i>	Endangered
Wood frog	<i>Rana sylvatica</i>	
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>	
Facultative Vernal Pool Breeding Amphibians:		
Common Name	Scientific Name	Status
Green frog	<i>Rana clamitans melanota</i>	
Bullfrog	<i>R. catesbiana</i>	
Pickerel frog	<i>R. palustris</i>	
Southern leopard frog	<i>R. utricularia</i>	
Carpenter frog	<i>R. virgatipes</i>	Special Concern
Northern cricket frog	<i>Acris crepitans</i>	
Northern spring peeper	<i>Psuedacris crucifer</i>	
New Jersey chorus frog	<i>P. triseriata kalmii</i>	
Upland chorus frog	<i>P. triseriata ferarium</i>	
Northern gray treefrog	<i>Hyla versicolor</i>	
Southern gray treefrog	<i>H. chrysocelis</i>	Endangered
Pine Barrens treefrog	<i>H. andersonii</i>	Threatened
Four-toed salamander	<i>Hemidactylum scutatum</i>	
Long-tailed salamander	<i>Eurycea l. longicauda</i>	Threatened
American toad	<i>Bufo americanus</i>	
Fowler's Toad	<i>B. fowlerii</i>	Special Concern
Reptiles that Inhabit Vernal Pools on a Seasonal Basis:		
Common Name	Scientific Name	Status
Wood turtle	<i>Glyptemys insculpta</i>	Threatened
Spotted turtle	<i>Clemmys guttata</i>	Special Concern
Mud turtle	<i>Kinosternon subrubrum</i>	
Eastern painted turtle	<i>Chrysemys picta picta</i>	
Common snapping turtle	<i>Chelydra serpentina serpentina</i>	

Source: *New Jersey's Vernal Pools*, NJDEP Division of Fish and Wildlife
<http://www.state.nj.us/dep/fgw/ensp/vernalpool.htm#obligate>

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Hillsborough Township Natural Resource Inventory

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Appendix A

Preserved Lands of Hillsborough Township

Hillsborough Township Natural Resource Inventory

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
1	1	29.44	STATE OF NJ DEPT OF ENV PROT	PARK		442 THREE BRIDGES ROAD	State Preserved Lands
1	2	43.05	STATE OF NJ DEPT OF ENV PROT	PARK		430 THREE BRIDGES ROAD	State Preserved Lands
1	9	97.80	STATE OF NJ DEPT OF ENV PROT	PARK		336 THREE BRIDGES ROAD	State Preserved Lands
10	11	0.67	COUNTY OF SOMERSET			MILL LANE	County Preserved Lands
10	13	0.32	COUNTY OF SOMERSET			RIVER ROAD	County Preserved Lands
10	3	0.35	TOWNSHIP OF HILLSBOROUGH			RIVERSIDE DRIVE	Local Preserved Lands
11	10.01	0.73	TOWNSHIP OF HILLSBOROUGH	TRAIL GREENWAY		1128 RIVER ROAD	Local Preserved Lands
11	13.01	158.72	TOWNSHIP OF HILLSBOROUGH	FARM	BRIARWOOD FARMS	1140 RIVER ROAD	Preserved Farms
11	13.02	28.25	TOWNSHIP OF HILLSBOROUGH	TRAIL GREENWAY		RIVER ROAD	Local Preserved Lands
11	15	62.01	CUNNINGHAM, WILLIAM F	FARM		711 AMWELL ROAD	Preserved Farms
11	27	82.30	PITSTOWN PROPERTIES, LLC	FARM		685 AMWELL ROAD	Preserved Farms
12	10	5.62	COUNTY OF SOMERSET			RIVERSIDE DRIVE	County Preserved Lands
12	4	0.56	TOWNSHIP OF HILLSBOROUGH			CLAWSON AVENUE	Local Preserved Lands
12	45	20.13	TOWNSHIP OF HILLSBOROUGH	FARM		MILL LANE	Preserved Farms
13.01	1	28.20	SULLY LLC C/O RICHARD NORZ	FARM		148 SOUTH BRANCH ROAD	Preserved Farms
13.01	1.03	2.00	SYLVESTER SULLIVAN FAMILY LP	FARM		112 SOUTH BRANCH ROAD	Local Preserved Lands
13.01	2	44.20	NORZ, RICHARD	FARM		148 SOUTH BRANCH ROAD	Preserved Farms
13.01	2.01	1.02	WHITNEY, FRANK JR & RUTH	FARM		130 SOUTH BRANCH ROAD	Local Preserved Lands
13.01	2.02	2.00	WHITNEY, JOSEPH W & DANIELA	FARM		176 SOUTH BRANCH ROAD	Local Preserved Lands
13.01	4.18	12.17	TOWNSHIP OF HILLSBOROUGH			NORZ DRIVE	Local Preserved Lands
13.01	7	59.89	TOWNSHIP OF HILLSBOROUGH			SOUTH BRANCH ROAD	Local Preserved Lands
14	1	0.38	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	871 RIVER ROAD	State Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
14	10	4.64	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	10.B	0.28	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	10.C	28.03	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	10.F	2.58	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	11	13.74	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	13	61.06	STATE OF NJ DEPT OF ENV PROT	CONFLUENCE RESERVOIR	CONFLUENCE RESERVOIR	RIVER ROAD	State Preserved Lands
14	3	0.11	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	873 RIVER ROAD	State Preserved Lands
14	5	2.29	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	7.A	0.99	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
14	8.A	0.27	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
141.D	1	2.16	TOWNSHIP OF HILLSBOROUGH			ROUTE 206	Local Preserved Lands
142	23.A	15.48	TOWNSHIP OF HILLSBOROUGH		HAROLD DOCHERTY MEMORIAL PARK	154 ROUTE 206 SOUTH	Local Preserved Lands
142	9	90.27	DUKE FARMS FOUNDATION		DUKE FARMS	1104 & 1112 DUKES PRKWY W	Local Preserved Lands
143	7.19	4.41	TOWNSHIP OF HILLSBOROUGH	RECREATION FACILITY		VALLEY ROAD	Local Preserved Lands
144	17	92.99	EVERETT, DOROTHY S	FARM	EVER LEA FARMS	71 BEEKMAN LANE	Preserved Farms
144	17.01	2.00	KANELLOS, STYLIANOS & KATHRENE	FARM		89 BEEKMAN LANE	Local Preserved Lands
144	17.02	2.00	MICHTA, J & E , BARNISH, R & E	FARM		87 BEEKMAN LANE	Local Preserved Lands
144	17.03	1.96	CAMARDO, VINCENT & DEBORAH	FARM		69 BEEKMAN LANE	Local Preserved Lands
145	15	23.69	TOWNSHIP OF HILLSBOROUGH	FARM		840 RIVER ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership[^]	Current Use	Facility Name	Location	Type of Preservation
145	23	40.98	TAYLOR, DOLORES STAFFORD	FARM	BLACK HORSE	656 RIVER ROAD	Preserved Farms
145	32	33.11	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
145	33	79.86	TOWNSHIP OF HILLSBOROUGH	FARM		BEEKMAN LANE	Preserved Farms
145	6	1.10	PERSURANCE, ROBERT	FARM		836 RIVER ROAD	Local Preserved Lands
147	20	162.92	SCADB, Hilltop	FARM		Orchard Drive & River Road	Preserved Farms
148	1	41.59	TOWNSHIP OF HILLSBOROUGH			NEW CENTRE ROAD	Local Preserved Lands
148	21	17.39	HARVAN, INC	FARM		BEEKMAN LANE	Local Preserved Lands
148	22	25.13	HARVAN, INC.	FARM		BEEKMAN LANE	Local Preserved Lands
148	39	34.80	SULLIVAN, S & C , HARDING, L & J	FARM		255 SOUTH BRANCH ROAD	Local Preserved Lands
149.01	1.01	5.50	TOWNSHIP OF HILLSBOROUGH			SOUTH BRANCH ROAD	Local Preserved Lands
149.01	1.02	12.03	TOWNSHIP OF HILLSBOROUGH			379 SOUTH BRANCH ROAD	Local Preserved Lands
149.03	1	23.66	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
149.05	12	0.14	TOWNSHIP OF HILLSBOROUGH			ROHILL ROAD	Local Preserved Lands
149.06	24	3.30	TOWNSHIP OF HILLSBOROUGH			ROHILL ROAD	Local Preserved Lands
149.08	36	15.08	TOWNSHIP OF HILLSBOROUGH			APRIL VALLEY DRIVE	Local Preserved Lands
149.08	41	9.15	TOWNSHIP OF HILLSBOROUGH			HAMPSHIRE DRIVE	Local Preserved Lands
149.08	56	2.49	TOWNSHIP OF HILLSBOROUGH			FOSTER STREET	Local Preserved Lands
149.08	61	1.72	ROHILL VILLAGE - SEC 4			CONOVER DRIVE	Local Preserved Lands
149.08	77	6.36	TOWNSHIP OF HILLSBOROUGH			295 SOUTH BRANCH ROAD	Local Preserved Lands
149.08	81	3.65	TOWNSHIP OF HILLSBOROUGH			SOUTH BRANCH ROAD	Local Preserved Lands
149.08	82	3.46	TOWNSHIP OF HILLSBOROUGH			SOUTH BRANCH ROAD	Local Preserved Lands
149.08	83	6.15	TOWNSHIP OF HILLSBOROUGH			SOUTH BRANCH ROAD	Local Preserved Lands
149.12	1	2.94	TOWNSHIP OF HILLSBOROUGH			LEWIS STREET	Local Preserved Lands
149.14	13	6.17	TOWNSHIP OF HILLSBOROUGH			PETERSON ROAD	Local Preserved Lands
150	12.D	6.33	TOWNSHIP OF HILLSBOROUGH			AUTEN ROAD	Local Preserved Lands
150	12.E	4.58	TOWNSHIP OF HILLSBOROUGH			335 AUTEN ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
150	4	58.57	TOWNSHIP OF HILLSBOROUGH	FARM		AUTEN ROAD	Preserved Farms
150	5	42.58	JONES, WAYNE F	FARM	HIDDEN ACRES II	BEEKMAN LANE	Preserved Farms
150	8	38.31	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
150.01	18	6.46	TOWNSHIP OF HILLSBOROUGH			AUTEN ROAD	Local Preserved Lands
150.02	55	26.15	HERITAGE ESTATES HOMEOWNERS ASSOC			AUTEN ROAD	Local Preserved Lands
150.02	78	0.93	HERITAGE ESTATES HOMEOWNERS ASSOC			AUTEN ROAD	Local Preserved Lands
150.03	22	1.00	TOWNSHIP OF HILLSBOROUGH			BENNET ROAD	Local Preserved Lands
150.04	6	17.24	TOWNSHIP OF HILLSBOROUGH			151 BEEKMAN LANE	Local Preserved Lands
150.06	25	5.14	TOWNSHIP OF HILLSBOROUGH			WYCKOFF WAY	Local Preserved Lands
150.06	35	0.28	TOWNSHIP OF HILLSBOROUGH			335 AUTEN ROAD	Local Preserved Lands
150.10	15	1.79	HERITAGE ESTATES HOMEOWNERS ASSOC			WESLEY ROAD	Local Preserved Lands
150.B	6	18.37	TOWNSHIP OF HILLSBOROUGH			NEW AMWELL ROAD	Local Preserved Lands
150.B	67	0.99	TOWNSHIP OF HILLSBOROUGH			NEW AMWELL ROAD	Local Preserved Lands
151	1	30.38	TOWNSHIP OF HILLSBOROUGH			290 AUTEN ROAD	Local Preserved Lands
151	4	15.59	TOWNSHIP OF HILLSBOROUGH			AUTEN ROAD	Local Preserved Lands
151.09	174	24.99	TOWNSHIP OF HILLSBOROUGH			TRIANGLE ROAD	Local Preserved Lands
151.09	175	3.38	BRENTWOOD HILLS HOMEOWNERS ASSOC			GAFNEY COURT	Local Preserved Lands
151.09	207	14.22	BRENTWOOD HILLS HOMEOWNERS ASSOC			MORE ROAD	Local Preserved Lands
151.13	13	14.38	TOWNSHIP OF HILLSBOROUGH			TRIANGLE ROAD	Local Preserved Lands
152	11	3.88	TOWNSHIP OF HILLSBOROUGH			VALLEY ROAD	Local Preserved Lands
152	9.01	4.09	TOWNSHIP OF HILLSBOROUGH			VALLEY ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
152	9.29	4.27	TOWNSHIP OF HILLSBOROUGH			DITMARS CIRCLE	Local Preserved Lands
153.06	1	10.47	TOWNSHIP OF HILLSBOROUGH			344 ROUTE 206	Local Preserved Lands
164	7	205.28	BENSON, BRAD & LISA	FARM		900 AMWELL ROAD	Preserved Farms
164	7.03	22.68	COUNTY OF SOMERSET	FARM		AMWELL ROAD	Preserved Farms
164	9	150.19	LIMA, JOHN & KATHLEEN C	FARM		AMWELL ROAD	Preserved Farms
165	10	33.69	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	106 WERTSVILLE ROAD	County Preserved Lands
166	1	7.99	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
166	3.02	10.74	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
167	10	21.76	TOWNSHIP OF HILLSBOROUGH			220 LONG HILL ROAD	Preserved Farms
167	10.01	20.87	TOWNSHIP OF HILLSBOROUGH			LONG HILL ROAD	Local Preserved Lands
167	12.04	14.19	TOWNSHIP OF HILLSBOROUGH			LONG HILL ROAD	Local Preserved Lands
167	13.01	7.69	BURSHNIC, RUDY & SHAMRO, JAMES			575 MONTGOMERY ROAD	Local Preserved Lands
167	13.02	10.95	TOWNSHIP OF HILLSBOROUGH			571 MONTGOMERY ROAD	Local Preserved Lands
167	13.03	8.46	TOWNSHIP OF HILLSBOROUGH			573 MONTGOMERY ROAD	Local Preserved Lands
167	8	9.16	TOWNSHIP OF HILLSBOROUGH			BOX 45 MONTGOMERY ROAD	Local Preserved Lands
167	9	11.29	TOWNSHIP OF HILLSBOROUGH			569 MONTGOMERY ROAD	Local Preserved Lands
168	10	42.63	MARTIN, THEODORE M SR & LYNN JUDY	FARM	MARTIN NURSERY	20 WERTSVILLE ROAD	Preserved Farms
168	11	2.12	EASLEY, PRISCILLA J	FARM		30 WERTSVILLE ROAD	Local Preserved Lands
168	12	47.58	ZAMEK, ROSE TRUSTEES	FARM		225 LONG HILL ROAD	Preserved Farms
168	12.01	3.19	HONACHEFSKY, MARIE	FARM		32 WERTSVILLE ROAD	Local Preserved Lands
168	12.02	7.69	ZAMEK, STEPHEN & LINDA	FARM		36 WERTSVILLE ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
168	12.A	4.43	PAPP, CHARLES D & BARBARA A	FARM		223 LONG HILL ROAD	Local Preserved Lands
168	12.B	5.65	ZAMEK, FRANCIS J JR & ROSE MARIE	FARM		28 WERTSVILLE ROAD	Local Preserved Lands
169	24.A	27.47	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	WERTSVILLE ROAD	County Preserved Lands
169	27	61.45	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
169	30	4.29	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
169	33	1.39	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
169	41	5.36	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
169	5.01	29.24	YOUNG, CARL L	FARM		125 WERTSVILLE ROAD	Preserved Farms
169	5.E	51.06	J&M Giarusso	FARM		115 WERTSVILLE ROAD	Preserved Farms
169	58	12.01	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	E AMWELL TWP LINE	County Preserved Lands
169	59	14.25	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	33 PSCHORN LANE	County Preserved Lands
169	61	14.31	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	E AMWELL TWP LINE	County Preserved Lands
171	1	36.91	TOWNSHIP OF HILLSBOROUGH			587 MONTGOMERY ROAD	Local Preserved Lands
171	112.0	28.56	TOWNSHIP OF HILLSBOROUGH			DAVIDS LANE	Local Preserved Lands
171	12	6.72	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	320 LONG HILL ROAD	County Preserved Lands
171	14.03	6.27	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	14.C	3.05	TOWNSHIP OF HILLSBOROUGH			OFF PIROZZI LANE	Local Preserved Lands
171	14.Z	9.47	TOWNSHIP OF HILLSBOROUGH			MONTGOMERY ROAD	Local Preserved Lands
171	14L	10.05	TOWNSHIP OF HILLSBOROUGH			OFF PIROZZI LANE	Local Preserved Lands
171	14M	22.64	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	OFF PIROZZI LANE	County Preserved Lands
171	2	47.66	TOWNSHIP OF HILLSBOROUGH		OTTO'S PARK	WERTSVILLE ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
171	20	1.91	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	29	10.75	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	34	3.83	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	PIROZZI LANE	County Preserved Lands
171	51.01	21.51	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	52	30.07	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	57	66.37	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	WEST OF LONG HILL ROAD	County Preserved Lands
171	6	54.57	TOWNSHIP OF HILLSBOROUGH		OTTO'S PARK	WERTSVILLE ROAD	Local Preserved Lands
171	6.02	24.43	EILBACHER, DAVID J & JANE MARIE	FARM		79 WERTSVILLE ROAD	Preserved Farms
171	6.C	17.53	TOWNSHIP OF HILLSBOROUGH			WERTSVILLE ROAD	Local Preserved Lands
171	60	12.80	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	WEST OF LONG HILL ROAD	County Preserved Lands
171	61.02	24.40	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	70	48.97	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	71	5.14	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	72	6.86	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	81	8.02	TOWNSHIP OF HILLSBOROUGH			LONG HILL ROAD	Local Preserved Lands
171	82	10.99	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	83	10.04	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	85	7.94	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	87	6.56	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
171	88	6.10	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	462 LONG HILL ROAD	County Preserved Lands
171	89	5.74	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	90	5.52	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	LONG HILL ROAD	County Preserved Lands
171	93.01	34.46	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
171	95	17.96	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MONTGOMERY ROAD	County Preserved Lands
173	10	135.20	OSTERMAN, KENNETH & OSTERMAN, A	FARM	OSTERMAN NURSERY	49 WERTSVILLE ROAD	Preserved Farms
173	14	118.06	LONGHILL HOLDINGS LLC	FARM	FOX CREEK FARM	281 LONG HILL ROAD	Preserved Farms
173	19	9.67	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	ZION ROAD	County Preserved Lands
173	20	9.68	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	300 ZION ROAD	County Preserved Lands
173	30	7.12	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	8 CLARK LANE	County Preserved Lands
173	32	3.28	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	CLARK LANE	County Preserved Lands
173	34	2.23	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	ZION ROAD	County Preserved Lands
173	35	2.42	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	ZION ROAD	County Preserved Lands
173	36	2.69	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	CLARK LANE	County Preserved Lands
173	41	1.11	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	338 ZION ROAD	County Preserved Lands
173	5.B	36.24	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	270 ZION ROAD	County Preserved Lands
173	55.A	7.41	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	E OF LONGHILL RD	County Preserved Lands
173	55C	3.83	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST OF LONG HILL ROAD	County Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
173	65	2.07	TOWNSHIP OF HILLSBOROUGH			LONG HILL ROAD	Local Preserved Lands
173	7	46.16	TOWNSHIP OF HILLSBOROUGH	FARM		15 WERTISVILLE RD	Preserved Farms
173	7.01	66.48	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	WERTISVILLE ROAD	County Preserved Lands
173	9.07	107.14	OSTERMAN, ALFRED H	FARM	OSTERMAN NURSERY	25 WERTISVILLE ROAD	Preserved Farms
174	114	1.96	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	ZION ROAD	County Preserved Lands
174	123	0.22	TOWNSHIP OF HILLSBOROUGH			ZION ROAD	Local Preserved Lands
174	135	0.70	TOWNSHIP OF HILLSBOROUGH			ZION ROAD	Local Preserved Lands
174	136	0.81	TOWNSHIP OF HILLSBOROUGH			HELD LANE	Local Preserved Lands
174	137. A	3.24	TOWNSHIP OF HILLSBOROUGH			ZION ROAD	Local Preserved Lands
174	14.01	25.86	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	AMWELL ROAD	County Preserved Lands
174	143	1.49	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	ZION ROAD	County Preserved Lands
174	149. A	56.80	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	341 LONG HILL ROAD	County Preserved Lands
174	150	9.09	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	353 LONG HILL ROAD	County Preserved Lands
174	156. A	3.66	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	HELD LANE	County Preserved Lands
174	169	6.80	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
174	200	42.67	TOWNSHIP OF HILLSBOROUGH			DUTCHTOWN ROAD	Local Preserved Lands
174	37	2.95	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	299 EAST MOUNTAIN ROAD	County Preserved Lands
174	39.05	13.87	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
174	67.01	10.03	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST OF ZION ROAD	County Preserved Lands
174	7	51.20	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	AMWELL ROAD	County Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
174	7.02	12.31	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	712 AMWELL ROAD	County Preserved Lands
174	80.01	1,183.18	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
174.04	19	144.37	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MURRAY DRIVE	County Preserved Lands
174.04	19.01	3.18	TOWNSHIP OF HILLSBOROUGH	DETENTION BASIN		MURRAY DRIVE	Local Preserved Lands
174.A	16	5.94	TOWNSHIP OF HILLSBOROUGH			MURRAY DRIVE	Local Preserved Lands
174.A	41	3.27	TOWNSHIP OF HILLSBOROUGH			DAVAL ROAD	Local Preserved Lands
175	116	2.58	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175	117	2.48	TOWNSHIP OF HILLSBOROUGH			358 SOUTH BRANCH ROAD	Local Preserved Lands
175	16.01	1.09	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
175	19.01	1.73	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175	19.02	5.49	TOWNSHIP OF HILLSBOROUGH			EAST MOUNTAIN ROAD	Local Preserved Lands
175	26	6.50	TOWNSHIP OF HILLSBOROUGH			50 EAST MOUNTAIN ROAD	Local Preserved Lands
175	30.01	1.93	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175	33.20	11.96	EASTPOINTE HOMEOWER'S ASSOC INC			ATKINSON CIRCLE	Local Preserved Lands
175	34	53.76	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
175	36.05	15.98	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
175	37	79.98	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
175	39.01	174.89	COUNTY OF SOMERSET	PARK		PLEASANT VIEW ROAD	Local Preserved Lands
175	39.03	110.03	COUNTY OF SOMERSET	PARK		PLEASANT VIEW ROAD	Local Preserved Lands
175	43	1.61	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175	59	1.28	TOWNSHIP OF HILLSBOROUGH			WESCOTT ROAD	Local Preserved Lands
175	74	9.78	TOWNSHIP OF HILLSBOROUGH			WESCOTT & BIGLEY ROADS	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
175.04	1	5.16	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
175.06	1	37.84	TOWNSHIP OF HILLSBOROUGH			PLEASANT VIEW ROAD	Local Preserved Lands
175.06	1.01	66.69	TOWNSHIP OF HILLSBOROUGH	PARK	ANN VAN MIDDLESWORTH PARK	PLEASANT VIEW ROAD	Local Preserved Lands
175.08	146	16.57	TOWNSHIP OF HILLSBOROUGH			BEEKMAN LANE	Local Preserved Lands
175.08	84.01	3.98	TOWNSHIP OF HILLSBOROUGH			MARSHALL ROAD	Local Preserved Lands
175.10	18	18.41	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175.11	63.01	3.72	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175.12	1	1.86	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
175.B	19	1.50	TOWNSHIP OF HILLSBOROUGH			WESCOTT ROAD	Local Preserved Lands
176	1.01	119.82	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MOUNTAIN VIEW ROAD	County Preserved Lands
176	10	21.56	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MOUNTAIN VIEW ROAD	County Preserved Lands
176	10.01	60.53	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	MOUNTAIN VIEW ROAD	County Preserved Lands
176	14	24.71	COUNTY OF SOMERSET	PARK (?)	SOURLAND MOUNTAIN PRESERVE	PLEASANT VIEW ROAD	County Preserved Lands
176	14.02	35.81	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	PLEASANT VIEW ROAD	County Preserved Lands
176	3.02	41.66	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
176	5	48.89	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
176	5.02	9.43	COUNTY OF SOMERSET	PARK	SOURLAND MOUNTAIN PRESERVE	EAST MOUNTAIN ROAD	County Preserved Lands
177	1.B	8.50	TOWNSHIP OF HILLSBOROUGH	SPORT FIELDS		AMWELL ROAD	Local Preserved Lands
177	21	6.25	TOWNSHIP OF HILLSBOROUGH			STONEWYCK DRIVE	Local Preserved Lands
177	22	9.86	TOWNSHIP OF HILLSBOROUGH			27 OXFORD PLACE	Local Preserved Lands
177	23.01	61.54	COUNTY OF SOMERSET			141 MOUNTAIN VIEW ROAD	Local Preserved Lands
177	23.03	12.74	COUNTY OF SOMERSET			MOUNTAIN VIEW ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
177	23.04	8.18	COUNTY OF SOMERSET			ROUTE 206	Local Preserved Lands
177.02	49	49.69	PLEASANT VIEW FARMS HOMEOWNERS ASSN			PLEASANT VIEW ROAD	Local Preserved Lands
177.02	77	11.01	TOWNSHIP OF HILLSBOROUGH			OXFORD PLACE	Local Preserved Lands
177.E	21	1.61	TOWNSHIP OF HILLSBOROUGH			PIERSON DRIVE	Local Preserved Lands
177.F	1	6.98	TOWNSHIP OF HILLSBOROUGH			HOMESTEAD ROAD	Local Preserved Lands
177.H	40	6.74	TOWNSHIP OF HILLSBOROUGH			OFF OF PIERSON DRIVE	Local Preserved Lands
182	50	20.51	TOWNSHIP OF HILLSBOROUGH			351 DOCTORS WAY	Local Preserved Lands
182	57	10.86	TOWNSHIP OF HILLSBOROUGH			117 FLANDERS DRIVE	Local Preserved Lands
185	1	5.05	TOWNSHIP OF HILLSBOROUGH			WESTON ROAD	Local Preserved Lands
191	1	13.36	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	15	5.06	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	16.C	3.56	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	17.B	1.85	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	17.C	3.37	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	18.A	2.84	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	19.A	3.04	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	21.A	5.95	STATE OF NJ DEPT OF CONS & ECO DEV			MILLSTONE RIVER ROAD	State Preserved Lands
191	22.A	18.49	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
191	25	39.36	STATE OF NJ DEPT OF CONS & ECO DEV			MILLSTONE RIVER ROAD	State Preserved Lands
191	26.E	21.21	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
199	110	15.13	TOWNSHIP OF HILLSBOROUGH			ROYCE BROOK ROAD	Local Preserved Lands
199	53	3.07	TOWNSHIP OF HILLSBOROUGH			AMWELL ROAD	Local Preserved Lands
2	1	0.83	STATE OF NJ DEPT OF ENV PROT	PARK		THREE BRIDGES ROAD	State Preserved Lands
2	2	4.75	STATE OF NJ DEPT OF ENV PROT	PARK		THREE BRIDGES ROAD	State Preserved Lands
2	3	0.10	TOWNSHIP OF HILLSBOROUGH			THREE BRIDGES ROAD	Local Preserved Lands
20	11	0.19	TOWNSHIP OF HILLSBOROUGH			SIXTH STREET	Local Preserved Lands
200.05	10.01	4.69	STATE OF NJ DEPT OF TRANS			JILL COURT	State Preserved Lands
200.05	11.01	6.85	STATE OF NJ DEPT OF TRANS			JILL COURT	State Preserved Lands
200.B	12	11.85	STATE OF NJ DEPT OF TRANSPORTATION	RIGHT OF WAY		STEINMETZ ROAD	State Preserved Lands
200.B	32	11.53	STATE OF NJ DEPT OF TRANS			HOMESTEAD ROAD	State Preserved Lands
200.B	34	30.76	TOWNSHIP OF HILLSBOROUGH			530 WILLOW ROAD	Local Preserved Lands
201	10	51.40	STATE OF NJ DEPT OF TRANS			103 HILLSBOROUGH ROAD	State Preserved Lands
201	3	24.55	STATE OF NJ DEPT OF TRANS			HOMESTEAD ROAD	State Preserved Lands
201	4	49.93	URBAN, EMILY	FARM		180 HOMESTEAD ROAD	Preserved Farms
201	7	19.47	ANRI, INC C/O ANTON HELDMANN	FARM		500 WILLOW RD	Preserved Farms
201	8	74.31	VAN NUYS, L MARTIN EST & INA	FARM		219 HILLSBOROUGH RD	Preserved Farms
202	11	49.14	VAN NUYS, L MARTIN EST & INA	FARM		410 WILLOW ROAD	Preserved Farms
202	12	25.69	CONARD, SAMUEL G	FARM		WILLOW ROAD	Preserved Farms
202	13	26.26	DURLING, HARRIET E	FARM	HAMILTON FARM	240 WILLOW ROAD	Preserved Farms
202	15	76.72	CONARD HOME FARM, LLC	FARM	CONRAD HOME FARM	TOWNSHIP LINE ROAD	Preserved Farms
202	16	59.44	CONARD HOME FARM, LLC	FARM		TOWNSHIP LINE ROAD	Preserved Farms
202	17.02	76.68	CONARD HOME FARM, LLC	FARM	CONRAD HOME FARM	TOWNSHIP LINE ROAD	Preserved Farms

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
202	20	55.26	STATE OF NJ DEPT OF TRANS			TOWNSHIP LINE ROAD	State Preserved Lands
202	20	57.25	TRUSTEES MAPLE LANE FARM	FARM	MAPLE LANE FARM	TOWNSHIP LINE ROAD	Preserved Farms
202	6	152.20	STATE OF NJ DEPT OF TRANS			HILLSBOROUGH ROAD	State Preserved Lands
202	7	52.04	VAN NUYS, L MARTIN EST & INA	FARM		HILLSBOROUGH ROAD	Preserved Farms
202	9	98.22	WARMKE, JOHN T & DIANE L	FARM		150 HILLSBOROUGH ROAD	Preserved Farms
203	12	3.58	TOWNSHIP OF HILLSBOROUGH			CAMDEN ROAD	Local Preserved Lands
203	15.A	1.56	TOWNSHIP OF HILLSBOROUGH			IVY LANE	Local Preserved Lands
203	17	47.63	DURLING, HARRIET E	FARM		WILLOW ROAD	Preserved Farms
203	20.A	10.50	TOWNSHIP OF HILLSBOROUGH			WILLOW ROAD	Local Preserved Lands
203	22	12.35	TOWNSHIP OF HILLSBOROUGH			SCOTT DRIVE	Local Preserved Lands
203	9	12.02	TOWNSHIP OF HILLSBOROUGH			TOWNSHIP LINE ROAD	Local Preserved Lands
203.01	1	13.27	TOWNSHIP OF HILLSBOROUGH			HILLSBOROUGH ROAD	Local Preserved Lands
203.03	1	1.16	HOLLY INVESTMENT COMPANY			MATTHEW ROAD	Local Preserved Lands
203.05	1	13.00	TOWNSHIP OF HILLSBOROUGH			SCOTT DRIVE	Local Preserved Lands
203.05	28	0.20	TOWNSHIP OF HILLSBOROUGH			JOSHUA DRIVE	Local Preserved Lands
203.06	1	6.16	TOWNSHIP OF HILLSBOROUGH			JOSHUA DRIVE	Local Preserved Lands
203.07	1	0.67	TOWNSHIP OF HILLSBOROUGH			KILMER DRIVE	Local Preserved Lands
203.C	10	1.35	TOWNSHIP OF HILLSBOROUGH	PLAYGROUND		GAIL COURT	Local Preserved Lands
203.D	26	2.65	TOWNSHIP OF HILLSBOROUGH			CAMDEN ROAD	Local Preserved Lands
203.E	21.A	7.86	TOWNSHIP OF HILLSBOROUGH			KILMER DRIVE	Local Preserved Lands
203.E	5	2.51	TOWNSHIP OF HILLSBOROUGH			CAMDEN ROAD	Local Preserved Lands
203.E	5.A	0.46	TOWNSHIP OF HILLSBOROUGH			CAMDEN ROAD	Local Preserved Lands
203.G	13	7.83	TOWNSHIP OF HILLSBOROUGH			CAMDEN ROAD	Local Preserved Lands
203.G	44	13.45	TOWNSHIP OF HILLSBOROUGH			14 FREDRICK COURT	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
203.I	10	9.38	TOWNSHIP OF HILLSBOROUGH			STEPHEN WAY	Local Preserved Lands
203.I	10.A	0.74	TOWNSHIP OF HILLSBOROUGH			STEPHEN WAY	Local Preserved Lands
203.I	10.B	1.92	TOWNSHIP OF HILLSBOROUGH			STEPHEN WAY	Local Preserved Lands
203.I	10.C	0.96	TOWNSHIP OF HILLSBOROUGH			STEPHEN WAY	Local Preserved Lands
203.I	10.D	6.66	TOWNSHIP OF HILLSBOROUGH			STEPHEN WAY	Local Preserved Lands
203.I	10.E	0.24	TOWNSHIP OF HILLSBOROUGH			MICHELLE LANE	Local Preserved Lands
203.I	46	13.08	TOWNSHIP OF HILLSBOROUGH			KILMER DRIVE	Local Preserved Lands
203.J	9.A	0.48	TOWNSHIP OF HILLSBOROUGH			ARLENE COURT	Local Preserved Lands
203.L	36	10.50	TOWNSHIP OF HILLSBOROUGH			15 IVY LANE	Local Preserved Lands
203.M	1	5.76	TOWNSHIP OF HILLSBOROUGH			MICHELLE LANE	Local Preserved Lands
203.V	1	0.72	TOWNSHIP OF HILLSBOROUGH			KILMER DRIVE	Local Preserved Lands
204	0	1.00	TOWNSHIP OF HILLSBOROUGH	RECREATION FACILITY		AMWELL RD	Local Preserved Lands
204	10	6.28	TOWNSHIP OF HILLSBOROUGH			HILLSBOROUGH ROAD	Local Preserved Lands
204	37.10	15.90	TOWNSHIP OF HILLSBOROUGH			SLATER COURT	Local Preserved Lands
204.01	1	2.07	TOWNSHIP OF HILLSBOROUGH			FOX CHASE RUN	Local Preserved Lands
204.07	18	12.71	LAURELDALE HOMEOWNERS ASSO INC			FAIRFIELD LANE	Local Preserved Lands
204.07	19	4.16	LAURELDALE DEV LLC			FAIRFIELD LANE	Local Preserved Lands
204.A	7	4.23	TOWNSHIP OF HILLSBOROUGH			HARFORD PLACE	Local Preserved Lands
204.B	1	14.43	TOWNSHIP OF HILLSBOROUGH			WOODS ROAD	Local Preserved Lands
204.B	1.A	10.42	TOWNSHIP OF HILLSBOROUGH			WOODS ROAD	Local Preserved Lands
204.C	1	0.93	TOWNSHIP OF HILLSBOROUGH			WOODS ROAD	Local Preserved Lands
204.C	13	1.53	TOWNSHIP OF HILLSBOROUGH			FOX CHASE RUN	Local Preserved Lands
204.E	15	2.20	TOWNSHIP OF HILLSBOROUGH			SHELBURNE PLACE	Local Preserved Lands
204.F	10	22.18	TOWNSHIP OF HILLSBOROUGH			RENARD ROAD	Local Preserved Lands
204.F	10.A	8.67	TOWNSHIP OF HILLSBOROUGH			PIEDMONT PATH	Local Preserved Lands
204.F	10.B	6.23	TOWNSHIP OF HILLSBOROUGH			HUNT CLUB ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
204.F	65	13.24	TOWNSHIP OF HILLSBOROUGH			VALINOR ROAD	Local Preserved Lands
204.F	69	2.56	WILLOW EDGE ESTATES			FRANCIS DRIVE	Local Preserved Lands
204.G	1	3.78	TOWNSHIP OF HILLSBOROUGH			HUNTSMAN LANE	Local Preserved Lands
204.H	1	1.94	TOWNSHIP OF HILLSBOROUGH			HILLSBOROUGH ROAD	Local Preserved Lands
204.H	10	12.65	TOWNSHIP OF HILLSBOROUGH			FRANCIS DRIVE	Local Preserved Lands
204.J	58	0.85	TOWNSHIP OF HILLSBOROUGH			HUNT CLUB ROAD	Local Preserved Lands
204.J	7.A	2.96	TOWNSHIP OF HILLSBOROUGH			HUNT CLUB ROAD	Local Preserved Lands
204.L	12	3.21	TOWNSHIP OF HILLSBOROUGH			VALINOR ROAD	Local Preserved Lands
205	18	13.15	COUNTRY CLASSICS III & IV LLC			1570 MILLSTONE RIVER ROAD	Local Preserved Lands
205	46	28.85	TOWNSHIP OF HILLSBOROUGH			HILLSBOROUGH ROAD	Local Preserved Lands
205	48	29.13	MATJES ASSOCIATES LLC	FARM	DI HORSE FARM	1600 MILLSTONE RIVER ROAD	Preserved Farms
205	48.04	36.98	MATJES ASSOCIATES LLC	FARM	DI HORSE FARM	MILLSTONE RIVER ROAD	Preserved Farms
205	48.05	50.31	MATJES ASSOCIATES LLC	FARM	DI HORSE FARM	MILLSTONE RIVER ROAD	Preserved Farms
205.01	4	3.73	TOWNSHIP OF HILLSBOROUGH			CORNELL TRAIL	Local Preserved Lands
205.02	13	11.37	TOWNSHIP OF HILLSBOROUGH			PEMBROKE TERRACE	Local Preserved Lands
205.03	15	4.63	TOWNSHIP OF HILLSBOROUGH			FLAGG WAY	Local Preserved Lands
205.03	16	2.05	TOWNSHIP OF HILLSBOROUGH			FLAGG WAY	Local Preserved Lands
205.04	8	6.74	TOWNSHIP OF HILLSBOROUGH			CORNELL TRAIL	Local Preserved Lands
205.10	16	10.25	TOWNSHIP OF HILLSBOROUGH			HILLSBOROUGH ROAD	Local Preserved Lands
205.11	1	14.91	COUNTRY CLASSICS INC - PHASE 1E			15A COLLINS DRIVE	Local Preserved Lands
205.11	41	17.41	TOWNSHIP OF HILLSBOROUGH			KLOSS COURT	Local Preserved Lands
205.11	58	7.12	TOWNSHIP OF HILLSBOROUGH			HORSESHOE DRIVE	Local Preserved Lands
205.15	135	33.73	TOWNSHIP OF HILLSBOROUGH			GUMBLE COURT	Local Preserved Lands
205.15	147	1.40	TOWNSHIP OF HILLSBOROUGH			AMSTERDAM DRIVE	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
205.15	38	15.09	TOWNSHIP OF HILLSBOROUGH			16 RADDEL COURT	Local Preserved Lands
205.31	7	1.40	TOWNSHIP OF HILLSBOROUGH			MACK DRIVE	Local Preserved Lands
206	1	12.81	STATE OF NJ DEPT OF CONS & ECO DEV			MILLSTONE RIVER ROAD	State Preserved Lands
206	10	14.53	STATE OF NJ DEPT OF ENV PROT	PARK	DELAWARE & RARITAN CANAL PARK	MILLSTONE RIVER ROAD	State Preserved Lands
206	11	3.15	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	12	4.34	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	12.A	0.54	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	12.B	0.48	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	12.C	1.11	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	13	1.49	STATE OF NJ DEPT OF CONS & ECO DEV	PARK		MILLSTONE RIVER ROAD	State Preserved Lands
206	14	1.73	STATE OF NJ DEPT OF ENV PROT	PARK		MILLSTONE RIVER ROAD	State Preserved Lands
206	15	2.39	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	2	18.95	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	3	14.48	STATE OF NJ DEPT OF CONS & ECO DEV			MILLSTONE RIVER ROAD	State Preserved Lands
206	4	25.62	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	5	18.67	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	6	16.24	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
206	7	39.92	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
206	7.A	0.49	STATE OF NJ DEPT OF ENV PROT			MILLSTONE RIVER ROAD	State Preserved Lands
207	3.02	1.16	TOWNSHIP OF HILLSBOROUGH			AMSTERDAM DRIVE	Local Preserved Lands
207.01	12	2.86	TOWNSHIP OF HILLSBOROUGH			WOODMERE DRIVE	Local Preserved Lands
207.01	15	6.29	TOWNSHIP OF HILLSBOROUGH			SURREY DRIVE	Local Preserved Lands
207.01	23	2.10	TOWNSHIP OF HILLSBOROUGH			MULFORD LANE	Local Preserved Lands
207.01	35	22.12	TOWNSHIP OF HILLSBOROUGH			SOUTH WOODS ROAD	Local Preserved Lands
207.01	36	13.16	TOWNSHIP OF HILLSBOROUGH			MULFORD LANE	Local Preserved Lands
207.01	37	3.39	TOWNSHIP OF HILLSBOROUGH			MULFORD LANE	Local Preserved Lands
207.01	53.01	2.32	TOWNSHIP OP HILLSBOROUGH			18.A MULFORD LANE	Local Preserved Lands
207.01	91	3.33	TOWNSHIP OF HILLSBOROUGH			DOW DRIVE	Local Preserved Lands
207.02	53	9.72	TOWNSHIP OF HILLSBOROUGH			26 STEEPLE DRIVE	Local Preserved Lands
207.10	4	15.57	TOWNSHIP OF HILLSBOROUGH			BENNINGTON WAY	Local Preserved Lands
207.A	27	8.85	TOWNSHIP OF HILLSBOROUGH			HILLCREST ROAD	Local Preserved Lands
207.K	23	1.48	TOWNSHIP OF HILLSBOROUGH			MULFORD LANE	Local Preserved Lands
207.P	13	2.16	TOWNSHIP OF HILLSBOROUGH			WOODMERE DRIVE	Local Preserved Lands
208	20	4.36	TOWNSHIP OF HILLSBOROUGH			O'CONNOR DRIVE	Local Preserved Lands
28	3	0.50	TOWNSHIP OF HILLSBOROUGH			EIGHTH STREET	Local Preserved Lands
29	2	1.14	TOWNSHIP OF HILLSBOROUGH			EIGHTH STREET	Local Preserved Lands
29	4	1.14	TOWNSHIP OF HILLSBOROUGH			SEVENTH STREET	Local Preserved Lands
29	6	0.13	TOWNSHIP OF HILLSBOROUGH			HALL AVENUE	Local Preserved Lands
29	6	0.38	TOWNSHIP OF HILLSBOROUGH			HALL AVENUE	Local Preserved Lands
29	7	0.15	TOWNSHIP OF HILLSBOROUGH			HALL AVENUE	Local Preserved Lands
3	22	6.62	COUNTY OF SOMERSET			THREE BRIDGES ROAD	County Preserved Lands
3	23	0.33	COUNTY OF SOMERSET			THREE BRIDGES ROAD	County Preserved Lands
3	24	34.87	COUNTY OF SOMERSET	PARK	WOODFERN FARM	THREE BRIDGES ROAD	County Preserved Lands
30	10	0.06	TOWNSHIP OF HILLSBOROUGH			SEVENTH STREET	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
30	11	0.19	TOWNSHIP OF HILLSBOROUGH			SEVENTH STREET	Local Preserved Lands
30	12	0.13	TOWNSHIP OF HILLSBOROUGH			SEVENTH STREET	Local Preserved Lands
30	7	0.06	TOWNSHIP OF HILLSBOROUGH			SIXTH STREET	Local Preserved Lands
30	8	0.56	TOWNSHIP OF HILLSBOROUGH			HALL AVENUE	Local Preserved Lands
30	9	0.51	TOWNSHIP OF HILLSBOROUGH			SEVENTH STREET	Local Preserved Lands
34	10	0.13	TOWNSHIP OF HILLSBOROUGH			SECOND STREET	Local Preserved Lands
34	12	0.13	TOWNSHIP OF HILLSBOROUGH			HALL AVENUE	Local Preserved Lands
34	9	0.13	TOWNSHIP OF HILLSBOROUGH			SECOND STREET	Local Preserved Lands
41	8	0.66	TOWNSHIP OF HILLSBOROUGH			SIXTH STREET	Local Preserved Lands
48	1	281.13	DUKE FARMS FOUNDATION		DUKE FARMS	RIVER ROAD	Local Preserved Lands
48	10	15.54	COUNTY OF SOMERSET	PARK	DUKE ISLAND PARK	RIVER ROAD	County Preserved Lands
48	11.03	10.37	TOWNSHIP OF HILLSBOROUGH			RIVER ROAD	Local Preserved Lands
48	11.B	121.86	STATE OF NJ DEPT OF ENV PROT	RARITAN RIVER Conf.Res. OS	CONFLUENCE RESERVOIR	RIVER ROAD	State Preserved Lands
48	14.A	4.40	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
48	16	0.15	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
48	19	0.36	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
48	2	1.21	DUKE FARMS FOUNDATION		DUKE FARMS	RIVER ROAD	Local Preserved Lands
48	20	0.22	STATE OF NJ DEPT OF ENV PROT	Conf.Res. OS	RARITAN RIVER CONF.RES.OS	RIVER ROAD	State Preserved Lands
48	3	1.12	DUKE FARMS FOUNDATION		DUKE FARMS	RIVER ROAD	Local Preserved Lands
48	9	1.67	COUNTY OF SOMERSET	PARK	DUKE ISLAND PARK	RIVER ROAD	County Preserved Lands
49	1	189.68	DUKE FARMS FOUNDATION		DUKE FARMS	130 RIVER ROAD	Local Preserved Lands
49	3	13.07	DUKE FARMS FOUNDATION		DUKE FARMS	80 ROUTE 206	Local Preserved Lands
5	17	119.53	COUNTY OF SOMERSET	FARM		360 THREE BRIDGES ROAD	Preserved Farms
5	37.01	58.15	TOWNSHIP OF HILLSBOROUGH	FARM		AMWELL ROAD	Local Preserved Lands

Appendix A: Preserved Lands of Hillsborough Township

Block	Lot	Acres*	Current Ownership^	Current Use	Facility Name	Location	Type of Preservation
50	1	31.82	DUKE FARMS FOUNDATION		DUKE FARMS	DUKES PARKWAY EAST	Local Preserved Lands
50	2	131.08	COUNTY OF SOMERSET			DUKES PARKWAY EAST	County Preserved Lands
6	1	1.13	COUNTY OF SOMERSET			WOODFERN ROAD	County Preserved Lands
6	3.C	247.53	COUNTY OF SOMERSET	PARK	WOODFERN FARM	WOODFERN ROAD	County Preserved Lands
6	33	2.43	COUNTY OF SOMERSET	PARK	WOODFERN FARM	WOODFERN ROAD	County Preserved Lands
65	22	28.77	TOWNSHIP OF HILLSBOROUGH			BROOKS BOULEVARD	Local Preserved Lands
65.D	6	15.06	TOWNSHIP OF HILLSBOROUGH			BROOKS BOULEVARD	Local Preserved Lands
8	1	0.52	COUNTY OF SOMERSET			RIVER ROAD	County Preserved Lands
8	19.02	29.40	ROMANO, SALVATORE J. & BERNICE A.	FARM		6 POPLAR RD	Preserved Farms
8	7	0.50	COUNTY OF SOMERSET			RIVER ROAD	County Preserved Lands
8	8	36.13	COUNTY OF SOMERSET	PARK	WOODFERN FARM	RIVER ROAD	County Preserved Lands
8	9	33.94	TOWNSHIP OF HILLSBOROUGH			RIVER ROAD	Local Preserved Lands
*Acres: Calculated acres within Hillsborough Township ^Current Ownership based on tax assessor data							

Appendix B

New Jersey State Listed Endangered and Threatened Wildlife

List updated 3/11/04

Hillsborough Township Natural Resource Inventory

Appendix B: N.J. State Listed Endangered and Threatened Wildlife List

Endangered Birds		Threatened Birds	
Bittern, American	<i>Botaurus lentiginosus</i> BR	Bobolink	<i>Dolichonyx oryzivorus</i> BR
Eagle, bald	<i>Haliaeetus leucocephalus</i> BR	Eagle, bald	<i>Haliaeetus leucocephalus</i> NB
Falcon, peregrine	<i>Falco peregrinus</i>	Hawk, Cooper's	<i>Accipiter cooperii</i>
Goshawk, northern	<i>Accipiter gentilis</i> BR	Hawk, red-shouldered	<i>Buteo lineatus</i> NB
Grebe, pied-billed	<i>Podilymbus podiceps</i>	Night-heron, black-crowned	<i>Nycticorax nycticorax</i> BR
Harrier, northern	<i>Circus cyaneus</i> BR	Night-heron, yellow-crowned	<i>Nyctanassa violaceus</i>
Hawk, red-shouldered	<i>Buteo lineatus</i> BR	Knot, red	<i>Calidris canutus</i> BR
Owl, short-eared	<i>Asio flammeus</i> BR	Osprey	<i>Pandion haliaetus</i> BR
Plover, piping	<i>Charadrius melodus</i> **	Owl, barred	<i>Strix varia</i>
Sandpiper, upland	<i>Batramia longicauda</i>	Owl, long-eared	<i>Asio otus</i>
Shrike, loggerhead	<i>Lanius ludovicianus</i>	Rail, black	<i>Laterallus jamaicensis</i>
Skimmer, black	<i>Rynchops niger</i> BR	Skimmer, black	<i>Rynchops niger</i> NB
Sparrow, Henslow's	<i>Ammodramus henslowii</i>	Sparrow, grasshopper	<i>Ammodramus savannarum</i> BR
Sparrow, vesper	<i>Pooecetes gramineus</i> BR	Sparrow, Savannah	<i>Passerculus sandwichensis</i> BR
Tern, least	<i>Sterna antillarum</i>	Sparrow, vesper	<i>Pooecetes gramineus</i> NB
Tern, roseate	<i>Sterna dougallii</i> **	Woodpecker, red-headed	<i>Melanerpes erythrocephalus</i>
Wren, sedge	<i>Cistothorus platensis</i>		

**Federally endangered or threatened

BR - Breeding population only; NB - Non-breeding population only

Appendix B: N.J. State Listed Endangered and Threatened Wildlife List

Endangered Reptiles		Threatened Reptiles	
Rattlesnake, timber	<i>Crotalus h. horridus</i>	Snake, northern pine	<i>Pituophis m. melanoleucus</i>
Snake, corn	<i>Elaphe g. guttata</i>	Turtle, Atlantic green	<i>Chelonia mydas</i> **
Snake, queen	<i>Regina septemvittata</i>	Turtle, wood	<i>Clemmys insculpta</i>
Turtle, bog	<i>Clemmys muhlenbergii</i> **		
Atlantic hawksbill	<i>Eretmochelys imbricata</i> **		
Atlantic leatherback	<i>Dermochelys coriacea</i> **		
Atlantic loggerhead	<i>Caretta caretta</i> **		
Atlantic Ridley	<i>Lepidochelys kempfi</i> **		

**Federally endangered or threatened

Endangered Amphibians		Threatened Amphibians	
Salamander, blue-spotted	<i>Ambystoma laterale</i>	Salamander, eastern mud	<i>Pseudotriton montanus</i>
Salamander, eastern tiger	<i>Ambystoma tigrinum</i>	Salamander, long-tailed	<i>Eurycea longicauda</i>
Treefrog, southern gray	<i>Hyla chrysocelis</i>	Treefrog, pine barrens	<i>Hyla andersonii</i>

Endangered Invertebrates		Threatened Invertebrates	
Beetle, American burying	<i>Nicrophorus mericanus</i> **	Elfin, frosted (butterfly)	<i>Callophrys irus</i>
Beetle, northeastern beach tiger	<i>Cincindela d. dorsalis</i> **	Floater, triangle (mussel)	<i>Alasmidonta undulata</i>
Copper, bronze	<i>Lycaena hyllus</i>	Fritillary, silver-bordered (butterfly)	<i>Bolaria selene myrina</i>
Floater, brook (mussel)	<i>Alasmidonta varicosa</i>	Lampmussel, eastern (mussel)	<i>Lampsilis radiata</i>
Floater, green (mussel)	<i>Lasmigona subviridis</i>	Lampmussel, yellow (mussel)	<i>Lampsilis cariosa</i>
Satyr, Mitchell's (butterfly)	<i>Neonympha m. mitchellii</i> **	Mucket, tidewater (mussel)	<i>Leptodea ochracea</i>
Skipper, arogos (butterfly)	<i>Atrytone arogos arogos</i>	Pondmussel, eastern (mussel)	<i>Ligumia nasuta</i>
Skipper, Appalachian grizzled (butterfly)	<i>Pyrgus wyandot</i>	White, checkered (butterfly)	<i>Pontia protodice</i>
Wedgemussel, dwarf	<i>Alasmidonta heterodon</i> **		

**Federally endangered or threatened

Appendix B: N.J. State Listed Endangered and Threatened Wildlife List

Endangered Mammals	
Bat, Indiana	<i>Myotis sodalis</i> **
Bobcat	<i>Lynx rufus</i>
Whale, black right	<i>Balaena glacialis</i> **
Whale, blue	<i>Balaenoptera musculus</i> **
Whale, fin	<i>Balaenoptera physalus</i> **
Whale, humpback	<i>Megaptera novaeangliae</i> **
Whale, sei	<i>Balaenoptera borealis</i> **
Whale, sperm	<i>Physeter macrocephalus</i> **
Woodrat, Allegheny	<i>Neotoma floridana magister</i>

**Federally Endangered

Endangered Fish	
Sturgeon, shortnose	<i>Acipenser brevirostrum</i> **

**Federally Endangered

List updated 3/11/04

The lists of New Jersey's endangered and nongame wildlife species are maintained by the DEP's Division of Fish and Wildlife's Endangered and Nongame Species Program. They are used to determine protection and management actions necessary to ensure the survival of the state's endangered and nongame wildlife.

Appendix B: N.J. State Listed Endangered and Threatened Wildlife List

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Appendix C

New Jersey Endangered Plant Species List

**N.J.A.C. 7:5C
(Endangered Plant Species Program Rules)**

**Last Amended
May 12, 2005**

Hillsborough Township Natural Resource Inventory

Appendix C: Endangered Plant Species List

Scientific Name	Common Name
<i>Aeschynomene virginica</i>	sensitive joint-vetch
<i>Alisma triviale</i>	large water-plantain
<i>Amaranthus pumilus</i>	sea-beach pigweed
<i>Amelanchier sanguinea</i>	running serviceberry
<i>Ammannia latifolia</i>	Koehn's tooth-cup
<i>Andromeda glaucophylla</i>	bog rosemary
<i>Anemone cylindrica</i>	long-headed anemone
<i>Antennaria neglecta</i> var. <i>canadensis</i>	Canada pussytoes
<i>Aplectrum hyemale</i>	puttyroot
<i>Arabis drummondii</i>	Drummond's rock cress
<i>Arceuthobium pusillum</i>	dwarf mistletoe
<i>Arenaria stricta</i>	rock sandwort
<i>Aristida lanosa</i>	wooly three-awned grass
<i>Armoracia lacustris</i>	lake cress
<i>Asimina triloba</i>	pawpaw
<i>Asplenium bradleyi</i>	Bradley's spleenwort
<i>Asplenium pinnatifidum</i>	lobed spleenwort
<i>Aster borealis</i>	rush aster
<i>Aster firmus</i>	shining aster
<i>Aster praealtus</i>	willow-leaved aster
<i>Aster radula</i>	low rough aster
<i>Athyrium pycnocarpon</i>	glade fern
<i>Atriplex subspicata</i>	orache
<i>Bidens beckii</i>	water-marigold
<i>Bidens eatonii</i>	Eaton's bur-marigold
<i>Boltonia asteroides</i> var. <i>glastifolia</i>	boltonia
<i>Botrychium multifidum</i>	leathery grape-fern
<i>Bouteloua curtipendula</i>	side-oats gramma grass
<i>Cacalia atriplicifolia</i>	pale indian plantain
<i>Calamagrostis pickeringii</i>	Pickering's reedgrass
<i>Calystegia sepium</i> ssp. <i>erratica</i>	bindweed
<i>Calystegia spithamea</i>	erect bindweed
<i>Cardamine longii</i>	Long's bitter cress
<i>Cardamine maxima</i>	large-leaved toothwort
<i>Cardamine rotundifolia</i>	round-leaved water-cress
<i>Carex albursina</i>	sedge
<i>Carex alopecoidea</i>	foxtail sedge
<i>Carex amphibola</i> var. <i>amphibola</i>	narrow-leaved sedge
<i>Carex aquatilis</i>	water sedge
<i>Carex arctata</i>	dropping woodsedge
<i>Carex backii</i>	Back's sedge
<i>Carex brunnescens</i>	brownish sedge
<i>Carex bushii</i>	Bush's sedge
<i>Carex crawei</i>	Crawe's sedge
<i>Carex cumulata</i>	clustered sedge
<i>Carex deweyana</i>	Dewey's sedge
<i>Carex formosa</i>	handsome sedge
<i>Carex haydenii</i>	cloud sedge
<i>Carex jamesii</i>	Nebraska sedge

Scientific Name	Common Name
<i>Carex jorii</i>	cypress-swamp sedge
<i>Carex leptonevia</i>	finely-nerved sedge
<i>Carex limosa</i>	mud sedge
<i>Carex louisianica</i>	Louisiana sedge
<i>Carex lupuliformis</i>	hop-like sedge
<i>Carex oligocarpa</i>	few-fruited sedge
<i>Carex peckii</i>	white-tinged sedge
<i>Carex plantaginea</i>	plantain-leaved sedge
<i>Carex polymorpha</i>	variable sedge
<i>Carex pseudocyperus</i>	cyperus-like sedge
<i>Carex siccata</i>	dry-spiked sedge
<i>Carex tuckermanii</i>	Tuckerman's sedge
<i>Castanea pumila</i>	Allegheny chinquapin
<i>Centrosema virginianum</i>	spurred butterfly pea
<i>Ceratophyllum echinatum</i>	spiny coontail
<i>Cercis canadensis</i>	redbud
<i>Chenopodium rubrum</i>	red goosefoot
<i>Cinna latifolia</i>	slender wood reedgrass
<i>Cirsium virginianum</i>	Virginia thistle
<i>Claytonia virginica</i> var. <i>hammondiae</i>	Hammond's yellow spring beauty
<i>Cleistes divaricata</i>	spreading pogonia
<i>Clitoria mariana</i>	butterfly pea
<i>Coelorachis rugosa</i>	wrinkled jointgrass
<i>Commelina erecta</i>	slender dayflower
<i>Conioselinum chinense</i>	hemlock-parsley
<i>Corema conradii</i>	broom crowberry
<i>Cornus amomum</i> var. <i>schuetzeana</i>	silky dogwood
<i>Crataegus calpodendron</i>	pear hawthorn
<i>Crataegus succulenta</i>	fleshy hawthorn
<i>Cryptogramma stelleri</i>	slender rock-brake
<i>Cuscuta cephalanthii</i>	button-bush dodder
<i>Cuscuta indecora</i>	collared dodder
<i>Cynoglossum virginianum</i> var. <i>boreale</i>	northern wild comfrey
<i>Cyperus hystericinus</i>	flatsedge
<i>Cyperus lancastriensis</i>	Lancaster flat sedge
<i>Cyperus plukenetii</i>	Plukenet's flatsedge
<i>Cyperus polystachyos</i>	coast flatsedge
<i>Cyperus pseudovegetus</i>	marsh flatsedge
<i>Cyperus refractus</i>	reflexed flatsedge
<i>Cyperus retrofractus</i>	rough flatsedge
<i>Cyperus schweinitzii</i>	Schweinitz's flatsedge
<i>Cyperus tenuifolius</i>	low flatsedge
<i>Cypripedium candidum</i>	small white lady's-slipper
<i>Cypripedium reginae</i>	showy lady's-slipper
<i>Dalibarda repens</i>	robin-run-away
<i>Desmodium humifusum</i>	trailing tick-trefoil
<i>Desmodium pauciflorum</i>	few-flowered tick-trefoil
<i>Desmodium sessilifolium</i>	sessile-leaved tick-trefoil
<i>Dicentra canadensis</i>	squirrel-corn
<i>Dicentra eximia</i>	wild bleeding-hearts

Appendix C: Endangered Plant Species List

Scientific Name	Common Name
<i>Diodia virginiana</i>	larger buttonweed
<i>Draba reptans</i>	Carolina whitlow-grass
<i>Eleocharis brittonii</i>	Britton's spikerush
<i>Eleocharis compressa</i>	flat-stemmed spikerush
<i>Eleocharis equisetoides</i>	knotted spikerush
<i>Eleocharis melanocarpa</i>	black-fruited spikerush
<i>Eleocharis minima</i>	small spikerush
<i>Eleocharis pauciflora</i>	few-flowered spikerush
<i>Eleocharis tenuis</i> var. <i>verrucosa</i>	spikerush
<i>Eleocharis tortilis</i>	twisted spikerush
<i>Elephantopus carolinianus</i>	elephant's foot
<i>Ellisia nyctelea</i>	Aunt Lucy
<i>Elymus trachycaulus</i>	slender wheatgrass
<i>Equisetum pratense</i>	meadow horsetail
<i>Equisetum variegatum</i>	variegated horsetail
<i>Eriophorum gracile</i>	slender cottongrass
<i>Eriophorum tenellum</i>	rough cottongrass
<i>Eriophorum vaginatum</i> var. <i>spissum</i>	sheathed cottongrass
<i>Eupatorium capillifolium</i>	dog-fennel thoroughwort
<i>Eupatorium resinosum</i>	pine barren boneset
<i>Euphorbia marilandica</i>	Maryland spurge
<i>Euphorbia purpurea</i>	glade spurge
<i>Filipendula rubra</i>	queen-of-the-prairie
<i>Fraxinus profunda</i>	pumpkin ash
<i>Galactia volubilis</i>	downy milk-pea
<i>Galium hispidulum</i>	coast bedstraw
<i>Galium labradoricum</i>	Labrador marsh bedstraw
<i>Galium trifidum</i>	small bedstraw
<i>Gaultheria hispidula</i>	creeping snowberry
<i>Gentiana linearis</i>	narrow-leaved gentian
<i>Glaux maritima</i>	sea-beach milkwort
<i>Glyceria borealis</i>	small floating mannagrass
<i>Glyceria grandis</i>	American mannagrass
<i>Gnaphalium helleri</i>	Heller's everlasting
<i>Gnaphalium macounii</i>	clammy everlasting
<i>Goodyera tessellata</i>	checkered rattlesnake plantain
<i>Gymnopogon brevifolius</i>	short-leaved skeleton grass
<i>Helonias bullata</i>	swamp-pink
<i>Hemicarpha micrantha</i>	Hemicarpha
<i>Hieracium kalmii</i>	Canada hawkweed
<i>Hottonia inflata</i>	featherfoil
<i>Hybanthus concolor</i>	green violet
<i>Hydrastis canadensis</i>	goldenseal
<i>Hydrocotyle ranunculoides</i>	floating pennywort
<i>Hydrophyllum canadense</i>	broad-leaved waterleaf
<i>Hypericum adpressum</i>	Barton's St. John's-wort
<i>Hypericum majus</i>	larger Canadian St. John's-wort
<i>Hypericum prolificum</i>	shrubby St. John's-wort
<i>Ilex montana</i>	mountain holly

Scientific Name	Common Name
<i>Isanthus brachiatus</i>	false pennyroyal
<i>Isoetes lacustris</i>	lake quillwort
<i>Isoetes melanopoda</i>	black-based quillwort
<i>Isoetes tuckermanii</i>	Tuckerman's quillwort
<i>Isotria medeoloides</i>	small whorled pogonia
<i>Jeffersonia diphylla</i>	twinleaf
<i>Juncus brachycarpus</i>	short-fruited rush
<i>Juncus caesariensis</i>	New Jersey rush
<i>Juncus coriaceus</i>	awl-leaved rush
<i>Juncus elliotii</i>	Elliott's rush
<i>Juncus torreyi</i>	Torrey's rush
<i>Kalmia polifolia</i>	pale laurel
<i>Krigia dandelion</i>	dwarf dandelion
<i>Kuhnia eupatorioides</i>	false boneset
<i>Lathyrus ochroleucus</i>	pale vetchling peavine
<i>Lathyrus venosus</i>	smooth veiny peavine
<i>Lechea tenuifolia</i>	slender pinweed
<i>Lemna perpusilla</i>	minute duckweed
<i>Lemna valdiviana</i>	pale duckweed
<i>Liatrix scariosa</i> var. <i>novae-angliae</i>	northern blazing star
<i>Limosella subulata</i>	mudweed
<i>Linnaea borealis</i>	twin-flower
<i>Linum intercursum</i>	Florida yellow flax
<i>Linum sulcatum</i>	grooved yellow flax
<i>Listera cordata</i>	heart-leaved twayblade
<i>Listera smallii</i>	kidney-leaved twayblade
<i>Lobelia boykinii</i>	Boykin's lobelia
<i>Lobelia dortmanna</i>	water lobelia
<i>Lonicera canadensis</i>	fly honeysuckle
<i>Luzula acuminata</i>	hairy woodrush
<i>Lycopodium annotinum</i>	stiff clubmoss
<i>Maianthemum canadense</i> var. <i>interius</i>	Western wild lily of the valley
<i>Malaxis bayardii</i>	Long's adder's-mouth
<i>Malaxis monophyllos</i>	white adder's-mouth
<i>Melanthium virginicum</i>	Virginia bunchflower
<i>Micranthemum micranthemoides</i>	Nuttall's mudwort
<i>Milium effusum</i>	tall millet grass
<i>Monarda clinopodia</i>	basil bee-balm
<i>Muhlenbergia capillaris</i>	long-awned smoke grass
<i>Myriophyllum pinnatum</i>	cut-leaved water-milfoil
<i>Myriophyllum sibiricum</i>	Siberian water-milfoil
<i>Myriophyllum tenellum</i>	slender water-milfoil
<i>Myriophyllum verticillatum</i>	whorled water-milfoil
<i>Narthecium americanum</i>	bog asphodel
<i>Nelumbo lutea</i>	American lotus
<i>Nuphar microphyllum</i>	small yellow pond lily
<i>Oenothera humifusa</i>	sea-side evening primrose
<i>Onosmodium virginianum</i>	Virginia false-gromwell
<i>Ophioglossum vulgatum</i> var. <i>pyncostichum</i>	sheathed adder's tongue

Appendix C: Endangered Plant Species List

Scientific Name	Common Name
<i>Oryzopsis asperifolia</i>	white-grained mountainricegrass
<i>Oryzopsis pungens</i>	slender mountain ricegrass
<i>Panicum aciculare</i>	bristling panic grass
<i>Panicum boreale</i>	northern panic grass
<i>Panicum flexile</i>	wiry panic grass
<i>Panicum hirstii</i>	Hirsts' panic grass
<i>Panicum xanthophysum</i>	slender panic grass
<i>Penstemon laevigatus</i>	smooth beard tongue
<i>Phlox divaricata</i>	wild blue phlox
<i>Phlox pilosa</i>	downy phlox
<i>Phyla lanceolata</i>	fog fruit
<i>Picea rubens</i>	red spruce
<i>Pinus pungens</i>	table mountain pine
<i>Pinus resinosa</i>	red pine
<i>Plantago pusilla</i>	slender plantain
<i>Platanthera flava</i> var. <i>flava</i>	southern rein orchid
<i>Platanthera hookeri</i>	Hooker's orchid
<i>Platanthera integra</i>	yellow fringeless orchid
<i>Platanthera nivea</i>	snowy orchid
<i>Platanthera orbiculata</i>	large round-leaved orchid
<i>Platanthera peramoena</i>	purple fringeless orchid
<i>Pluchea foetida</i>	stinking fleabane
<i>Poa autumnalis</i>	autumn bluegrass
<i>Poa saltuensis</i>	bluegrass
<i>Polemonium reptans</i>	Greek valerian
<i>Polygala incarnata</i>	pink milkwort
<i>Polygala senega</i>	Seneca snakeroot
<i>Polygonum densiflorum</i>	stout smartweed
<i>Polygonum glaucum</i>	sea-beach knotweed
<i>Polymnia uvedalia</i>	bearsfoot
<i>Potamogeton alpinus</i>	northern pondweed
<i>Potamogeton illinoensis</i>	Illinois pondweed
<i>Potamogeton obtusifolius</i>	obtuse-leaved pondweed
<i>Potamogeton praelongus</i>	white-stemmed pondweed
<i>Potamogeton robbinsii</i>	Robbins' pondweed
<i>Potamogeton zosteriformis</i>	flat-stemmed pondweed
<i>Potentilla palustris</i>	marsh cinquefoil
<i>Potentilla tridentata</i>	three-toothed cinquefoil
<i>Prenanthes racemosa</i>	smooth rattlesnake root
<i>Prunus alleghaniensis</i>	Alleghany plum
<i>Prunus angustifolia</i>	Chickasaw plum
<i>Ptelea trifoliata</i>	wafer ash
<i>Pycnanthemum clinopodioides</i>	basil mountain mint
<i>Pycnanthemum torrei</i>	Torrey's mountain mint
<i>Pyrola chlorantha</i>	greenish-flowered wintergreen
<i>Quercus imbricaria</i>	shingle oak
<i>Quercus lyrata</i>	overcup oak
<i>Quercus nigra</i>	water oak
<i>Ranunculus allegheniensis</i>	Allegheny mountain crowfoot

Scientific Name	Common Name
<i>Ranunculus cymbalaria</i>	sea-side crowfoot
<i>Ranunculus fascicularis</i>	early buttercup
<i>Ranunculus reptans</i>	creeping buttercup
<i>Rhexia aristosa</i>	awned meadowbeauty
<i>Rhexia interior</i>	showy meadowbeauty
<i>Rhododendron atlanticum</i>	dwarf azalea
<i>Rhododendron canadense</i>	rhodora
<i>Rhynchospora capillacea</i>	capillary beaked rush
<i>Rhynchospora filifolia</i>	thread-leaved beaked rush
<i>Rhynchospora globularis</i>	grass-like beaked rush
<i>Rhynchospora glomerata</i>	clustered beaked rush
<i>Rhynchospora knieskernii</i>	Knieskern's beaked rush
<i>Rhynchospora microcephala</i>	small-headed beaked rush
<i>Rhynchospora rariflora</i>	rare-flowering beaked rush
<i>Ribes glandulosum</i>	skunk currant
<i>Ribes missouriense</i>	Missouri gooseberry
<i>Rubus canadensis</i>	smooth blackberry
<i>Rudbeckia fulgida</i>	orange coneflower
<i>Ruellia caroliniensis</i>	Carolina petunia
<i>Sacciolepis striata</i>	American cupscale
<i>Sagittaria australis</i>	southern arrow head
<i>Sagittaria cuneata</i>	arrow-leaved arrow head
<i>Sagittaria teres</i>	slender arrow head
<i>Salix pedicellaris</i>	bog willow
<i>Sanicula trifoliata</i>	large-fruited sanicle
<i>Scheuchzeria palustris</i>	arrow-grass
<i>Schizachne purpurascens</i>	purple oats
<i>Schoenoplectus torreyi</i>	Torrey's bulrush
<i>Schwalbea americana</i>	chaffseed
<i>Scirpus longii</i>	Long's bulrush
<i>Scirpus maritimus</i>	salt marsh bulrush
<i>Scirpus microcarpus</i>	barber pole bulrush
<i>Scirpus pedicellatus</i>	stalked bulrush
<i>Scleria verticillata</i>	whorled nut rush
<i>Scutellaria leonardii</i>	small skullcap
<i>Silene nivea</i>	snowy campion
<i>Sisyrinchium montanum</i>	strict blue-eyed grass
<i>Smilacina trifolia</i>	three-leaved Solomon's seal
<i>Solidago rigida</i>	stiff goldenrod
<i>Sparganium angustifolium</i>	narrow-leaved bur-reed
<i>Sparganium minimum</i>	small bur-reed
<i>Sphagnum angustifolium</i>	sphagnum
<i>Sphagnum austinii</i>	sphagnum
<i>Sphagnum centrale</i>	sphagnum
<i>Sphagnum contortum</i>	sphagnum
<i>Sphagnum macrophyllum</i> var. <i>floridanum</i>	sphagnum
<i>Sphagnum majus</i> ssp. <i>norvigicum</i>	sphagnum moss
<i>Sphagnum platyphyllum</i>	sphagnum
<i>Sphagnum quinquefarium</i>	sphagnum moss
<i>Sphagnum riparium</i>	sphagnum

Appendix C: Endangered Plant Species List

Scientific Name	Common Name
<i>Sphagnum strictum</i>	sphagnum
<i>Sphagnum subfulvum</i>	sphagnum moss
<i>Sphagnum subsecundum</i>	sphagnum
<i>Spiranthes laciniata</i>	lace-lip ladies'-tresses
<i>Sporobolus neglectus</i>	puff-sheathed dropseed
<i>Stachys palustris</i> var. <i>homotricha</i>	marsh hedge-nettle
<i>Stellaria borealis</i>	northern stichwort
<i>Stellaria pubera</i>	star chickweed
<i>Streptopus amplexifolius</i>	white twisted-stalk
<i>Streptopus roseus</i>	rosy twisted-stalk
<i>Stylisma pickeringii</i> var. <i>pickeringii</i>	Pickering's morning-glory
<i>Suaeda rolandii</i>	sea blight
<i>Thuja occidentalis</i>	northern white cedar
<i>Tiarella cordifolia</i>	foamflower
<i>Tofieldia racemosa</i>	false asphodel
<i>Triadenum walteri</i>	Walter's St. John's-wort
<i>Trichomanes intricatum</i>	filmy fern
<i>Tridens flavus</i> var. <i>chapmanii</i>	Chapman's redbtop
<i>Triglochin maritimum</i>	sea-side arrow-grass
<i>Triosteum augustifolium</i>	narrow-leaved tinker'
<i>Triphora trianthophora</i>	three birds orchid

Scientific Name	Common Name
<i>Trollius laxus</i> ssp. <i>laxus</i>	spreading globe flower
<i>Utricularia biflora</i>	two-flowered bladderwort
<i>Utricularia minor</i>	lesser bladderwort
<i>Utricularia olivacea</i>	dwarf white bladderwort
<i>Utricularia resupinata</i>	reversed bladderwort
<i>Uvularia puberula</i> var. <i>nitida</i>	pine barren bellwort
<i>Valerianella radiata</i>	beaked corn-salad
<i>Valerianella umbilicata</i>	corn-salad
<i>Verbena simplex</i>	narrow-leaved vervain
<i>Vernonia glauca</i>	broad-leaved ironweed
<i>Veronica catenata</i>	speedwell
<i>Viburnum alnifolium</i>	witch hobble
<i>Vicia caroliniana</i>	Carolina wood vetch
<i>Viola canadensis</i>	Canada violet
<i>Viola septentrionalis</i>	northern blue violet
<i>Vitis novae-angliae</i>	New England grape
<i>Vulpia elliottea</i>	squirrel fescue
<i>Wolffiella floridana</i>	Florida bogmat
<i>Xyris caroliniana</i>	sand yellow-eyed grass
<i>Xyris fimbriata</i>	fringed yellow-eyed grass
<i>Xyris montana</i>	northern yellow-eyed grass
<i>Zigadenus leimanthoides</i>	oceanorus