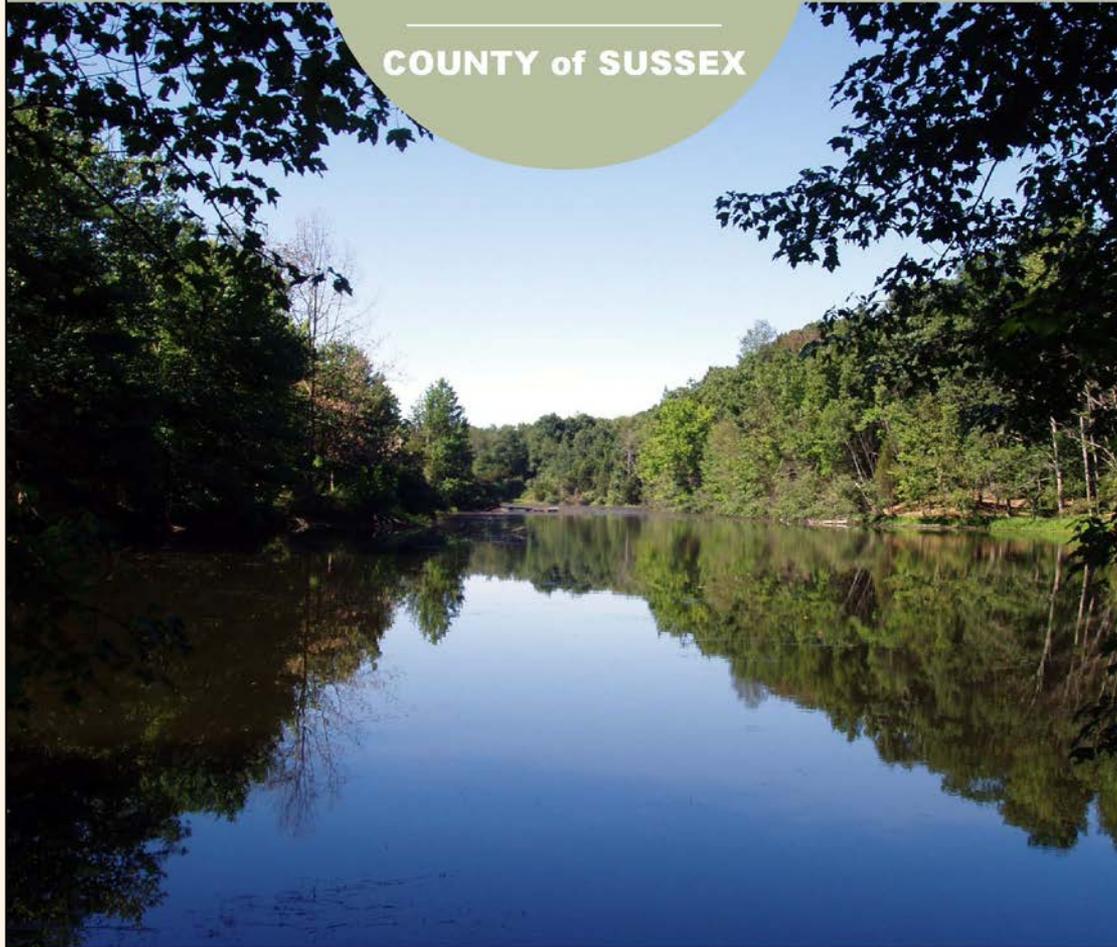


OPEN SPACE AND RECREATION PLAN UPDATE: CONSERVATION AND STEWARDSHIP

COUNTY of SUSSEX



THE LAND CONSERVANCY
OF NEW JERSEY

DRAFT
JUNE 9, 2016



Prepared for:
Sussex County
Board of Chosen Freeholders
Open Space Advisory Committee

Funded by a Catalyst Grant from the Open Space Institute's Delaware River Watershed Protection Fund

Plan Focus:

- Trails
- Stewardship
- Water Resources

Goals of the Open Space Program:

- Protect the quantity and quality of **water resources**
- Secure protection of rivers, lakes and streams
- Connect land for regional **greenways and trail** development
- Shape growth and maintain **rural character** of a community
- Safeguard threatened and endangered **species habitat**
- Add to publicly owned land
- Preserve scenic **vistas**
- Offer opportunities for resource-based recreation
- Provide opportunities for facility-based **recreation**
- Engage in land **stewardship** activities
- Promote **tourism** activities
- Enhance land and sites with **historic** values

As of May 2016, the Open Space Trust Fund has collected **\$36,450,305**, expended **\$34,155,248**, and has a balance of **\$2,926,384**

Table 1. Farmland, Recreation and Open Space Trust Fund Public Questions at a Glance				
<i>Referendum Year</i>	<i>Tax up to</i>	<i>Expiration</i>	<i>Yes %</i>	<i>Notes</i>
2000	2 cents	1/1/2009	73%	Split 90% farmland /10% open space; annual funding cycle
2005	1.5 cents	1/1/2016	57%	Additional tax; year-round, competitive basis; outside normal annual state and county funding cycles
2015	1.5 cents	1/1/2026	70%	Continuation of 2005 program parameters

For the years 2012 through 2016, the Board of Chosen Freeholders set the rate to reach a specified dollar amount targeted at \$395,000 per year

The peak for local trust fund collection rates was in 2004. The lowest amount collected was in 2015 and it is anticipated this trend will continue.

In 2015, **12 of Sussex County's 24 municipalities** had active open space trust funds:

- Andover Borough
- Andover Township
- Byram Township
- Fredon Township
- Green Township
- Hamburg Borough
- Hampton Township
- Hopatcong Borough
- Lafayette Township
- Sparta Township
- Stillwater Township
- Wantage Township

Local Trust Funds Collected: **\$14,375,196**

**Table 4. Municipal Open Space Trust Fund History:
Yearly Totals (2001-2015)**

Year	Yearly Total
2001	\$838,116.21
2002	\$977,995.14
2003	\$1,219,351.76
2004	\$1,281,366.88
2005	\$1,204,634.35
2006	\$1,052,107.93
2007	\$1,204,628.82
2008	\$1,020,084.85
2009	\$1,031,698.53
2010	\$825,309.89
2011	\$815,023.26
2012	\$819,968.58
2013	\$701,265.19
2014	\$655,194.07
2015	\$728,450.79
Municipal Total	\$14,375,196.45

Sussex County: State Green Acres Grants

Table 5. Grant Funds Received by Sussex County from NJDEP Green Acres

2004	2005	2008	2011
\$1,050,000	\$200,000	\$450,000	\$900,000

Source: Green Acres Program Grants & Loans Project Descriptions

Sussex County has received **\$2,600,000** in state land acquisition grants

10 Sussex County municipalities have received Green Acres funding totaling **\$10,943,750** for land acquisition:

Andover Borough - \$325,000
 Andover Township - \$500,000
 Byram Township - \$2,850,000
 Frankford Township - \$1,570,000
 Fredon Township - \$800,000

Green Township - \$1,150,000
 Lafayette Township - \$1,125,000
 Stillwater Township - \$300,000
 Vernon Township - \$1,701,250
 Wantage Township - \$622,500

322 miles of blazed and maintained trails on State and Federal lands in Sussex County

- **Federal (3)**: Appalachian Trail National Scenic Trail, Delaware Water Gap National Recreation Area, and Wallkill River National Wildlife Refuge
- **State (32)**: 6 State Parks, 1 State Forest, 12 Wildlife Management Areas (WMA), and 13 NJ Natural Land Trust Preserves
- **Nonprofit (7)** and **Municipal (25)** including Blair Mountain Creek Preserve in Stillwater Township (*nonprofit*), and Briar Ridge in Byram Township (*Municipal*)

Other Trail Opportunities:

Regional Cycling:

- **Old Mine Road**
- **High Point to Cape May**: 238 miles-High Point State Park to Cape May through 11 Sussex County towns

Water Trails:

- **Wallkill River**: 9 miles through Wallkill National Wildlife Refuge to Oil City, New York
- **Vernon Canoe Trail**
- **Hopatcong State Park**: Proposed system with public access points at Roland-May Eve Sanctuary and Hopatcong State Park

Regional Trails

[Appalachian National Scenic Trail \(AT\)](#) – 2,190 miles

- New Jersey section is 72 miles long, passing through 7 Sussex County municipalities.

[Liberty Water Gap Trail](#) – 130 miles long

- Includes Highlands Trail, Sussex Branch Trail and Paulinskill Valley Trail linking Liberty State Park to the Delaware Water Gap.

[Highlands Trail](#) - More than 150 miles when completed

- Passes through 4 Sussex County towns (Hardyston, Sparta, Byram, Hopatcong), cooperative effort by NYNJTC.

[Sussex Branch Trail](#) – 20 miles

- Former Sussex Branch line of the Erie Lackawanna Railroad, from Allamuchy Mountain State Park to Branchville.

[Paulinskill Valley Trail](#) – 27 miles

- Follows an abandoned section of the New York, Susquehanna & Western Railroad from Sparta Junction to Knowlton.

[Great Valley Trail](#) – 4 miles

- Built on the former Lehigh & New England Railroad, extends from Frankford to Hampton Township.

[Ogden Mine Railroad Path](#) - 2.7 miles long

- Beginning at Mahlon Dickerson Reservation, it follows an abandoned railroad bed into Sparta Township.

[Morris Canal Greenway](#)

- This is a trail system in process, portions exist in Waterloo Village, Allamuchy Mountain State Park, and Stanhope

Preserved and Public Land

Sussex County has **144,261 acres** of publicly owned and preserved land. This represents 42% of the County's total lands (342,699 acres)

Owner	Total Acres	Percent of County
Federal	27,278	7.96%
State	76,793	22.41%
County	441	0.13%
Municipal	4,499	1.31%
Private	1,274	0.37%
Non-Profit	5,599	1.64%
Utility (City of Newark)	10,175	2.97%
Preserved Farmland	18,202	5.31%
Total Acreage	144,261	42%

Priority Stewardship Project Opportunities for Sussex County:

1. Riparian restoration and floodplain reforestation projects along rivers, streams, lakes, and other waterbodies.
2. Invasive species inventory and management on all open space lands.
3. Tree planting / reforestation projects in municipal recreational parks, green spaces, and steep slopes.
4. Community “watershed clean-up” programs on an open space lands and trails, most notably lands owned by the State of New Jersey.
5. Rain gardens and similar stormwater infiltration best management practices.
6. Development of conservation plans for farms which identify practices that can be funded by funding made available from Farm Bill programs.

Sparta Township Glen Brook Park



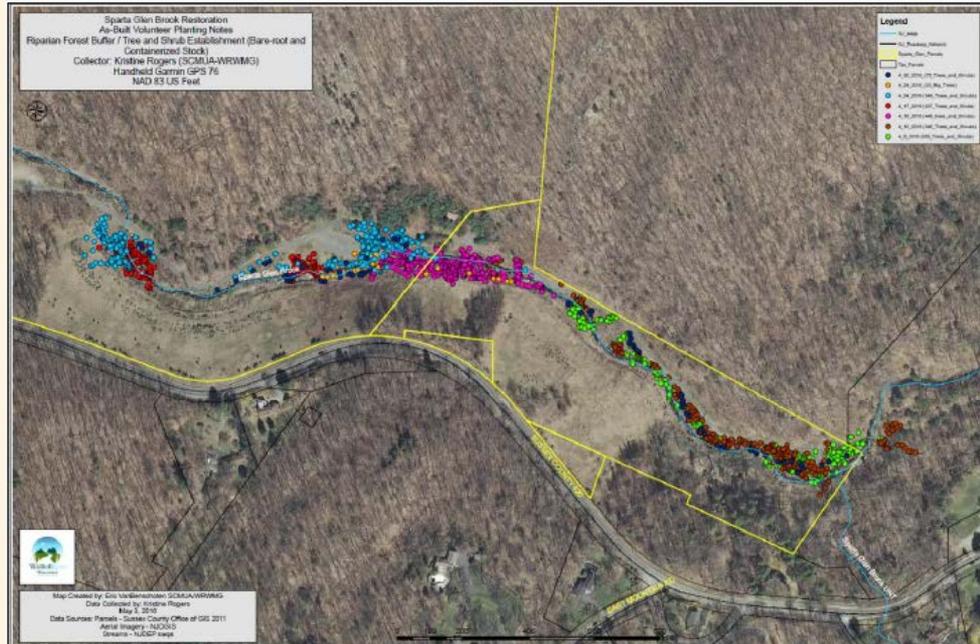
Resource concerns and observations:

- Erosive banks
- Lacking an overstory canopy cover: reduces drastic water temperature fluctuations
- Historic flooding event compromised in-stream habitat conditions



Active stewardship work:

- Restoration of damage caused by August 2000 microburst
- April 2016- realign the brook with the floodplain.
- Create pool and riffle areas- benefit brook trout populations
- 1,879 native trees planted – shade the brook, stabilized erosive banks, improve water quality



Stewardship opportunities, Projects, and Strategies:

- Monitor tree survivability, replant as necessary
- Maintain tree protection
- Control invasive species (mugwort)
- Educational/stewardship opportunities for community members

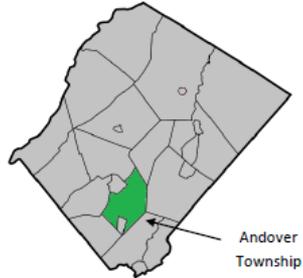
Key Strategies for Open Space Stewardship in Sussex County:

1. Identify and fund a **central coordinating organization** and/or committee to spearhead the planning and **implementation of stewardship initiatives and programs**.
2. **Strengthen and maintain lines of open communication** between governmental and municipal officials, conservation organizations, land managers, and community stakeholders.
3. Seek and implement **stewardship “projects of opportunity”** that will **engage community members, utilize existing financial and technical resources**, and have the ability to serve as a **successful community demonstration project**.
4. Become aware of, and take advantage of **existing conservation partnership programs and initiatives** such as the United States Fish and Wildlife Service’s Partners for Fish and Wildlife Program or United States Department of Agriculture Natural Resource Conservation Service Farm Bill Programs.
5. Work with active local citizens, recreation clubs, community groups, and schools to **coordinate programs** that enable them to assist with **implementing stewardship work**, such as **“watershed clean-ups”** on open space lands; ultimately identify such groups and volunteers as belonging to a **Sussex County Watershed Stewards Team**.
6. Educate and enable **municipal officials and public works employees** on how to **assist with open space stewardship and maintenance activities and projects** they may not typically think about.
7. **Install kiosks and educational signs** on open space lands **to raise awareness and encourage** more active community stewardship.
8. **Seek assistance and involvement** from local businesses and community sponsors to **drive stewardship efforts**.
9. Initiate a **locally driven open space monitoring and site assessment program** to be conducted on a routine basis.
10. **Encourage and promote programs similar to** the Sussex County Municipal Utilities Authority – Wallkill River Watershed Management Group’s existing three tiered stewardship program **to address stormwater management, riparian restoration, and agricultural outreach and assistance throughout all of Sussex County**



Andover Township

Sussex County



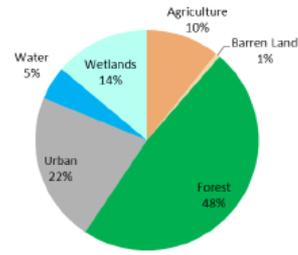
Andover Township

Total Area: 20.7 sq. mi. (13,242 acres)

Population (2010): 6,319

Population Density: 305 persons/sq. mi.

Land Use



Source: NJDEP 2012



Open Space Trust Fund

for maintenance and development of municipal lands

Preservation Priorities

- Promote ecotourism
- Upgrade recreational facilities and parks
- Connect Andover Township and Kittatinny State Park to Allamuchy Township via a new rail trail



Field at Lake Iliff

Population Trends

6,319

6,207



(2010)

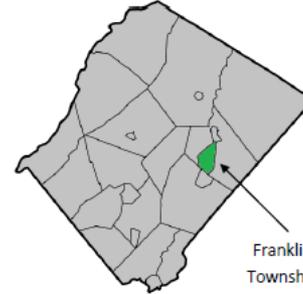
(2014)

Source: US Census Bureau 2016



Borough of Franklin

Sussex County



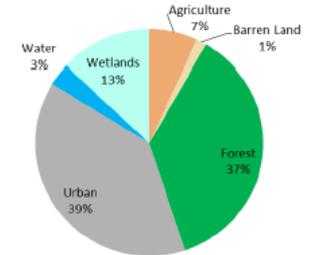
Franklin Township

Total Area: 4.57 sq. mi. (2,924.8 acres)

Population (2010): 5,045

Population Density: 1,122 persons/sq. mi.

Land Use



Source: NJDEP 2012

Recreational Goals

- Convert former rail line into a recreational trail
- Promote walkable streets
- Upgrade recreational facilities
- Create walking paths



The Zinc Miner (Source: Franklin Mineral Museum)

145 acres

Total preserved lands within Franklin Township:

State parks and trails, municipally owned land, preserved farmlands, and non-profit lands.

Population Trends

5,045

4,994



(2010)

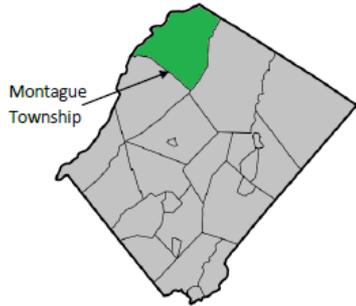
(2014)

Source: US Census Bureau



Montague Township

Sussex County



Total Area: 45.4 sq. mi. (29,043 acres)

Population (2010): 3,847

Population Density: 87 persons/sq. mi.

20,230 Acres

Total preserved lands within Montague Township:

State parks, municipal open space, preserved farmland, and non-profit lands

Population Trends

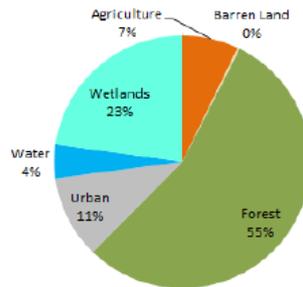
3,847 3,813



(2010) (2014)

Source: US Census Bureau 2016

Land Use



Source: NJDEP 2012

Preservation Priorities

- Protect threatened and endangered species
- Historic sites
- Scenic vistas
- Groundwater

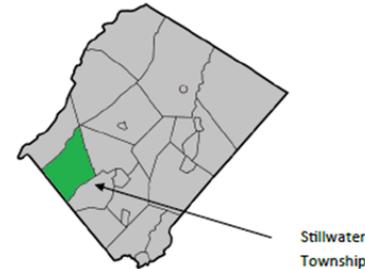


Mashipacong Bogs Preserve (Source: The Nature Conservancy)



Stillwater Township

Sussex County



Total Area: 28.4 sq. mi. (18,163 acres)

Population (2010): 4,099

Population Density: 151.5 persons/sq. mi.

6,737 acres

Total preserved lands within Stillwater Township:

Federal parks, state parks and trails, municipally owned lands, preserved farmlands, and non-profit lands

Population Trends

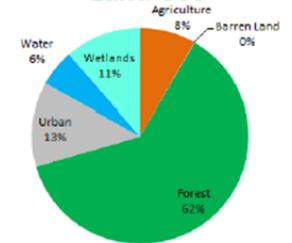
4,099 4,036



(2010) (2014)

Source: US Census Bureau

Land Use



Source: NJDEP 2012

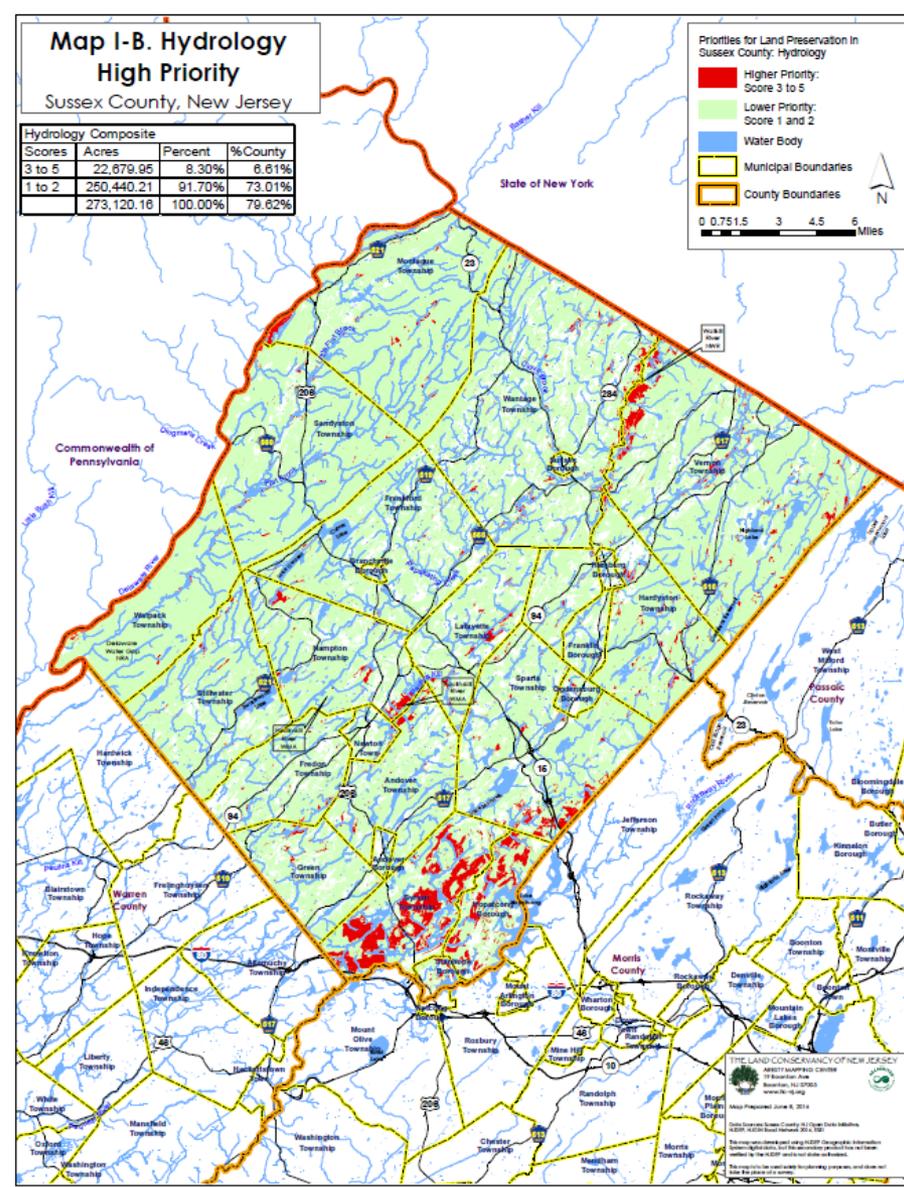
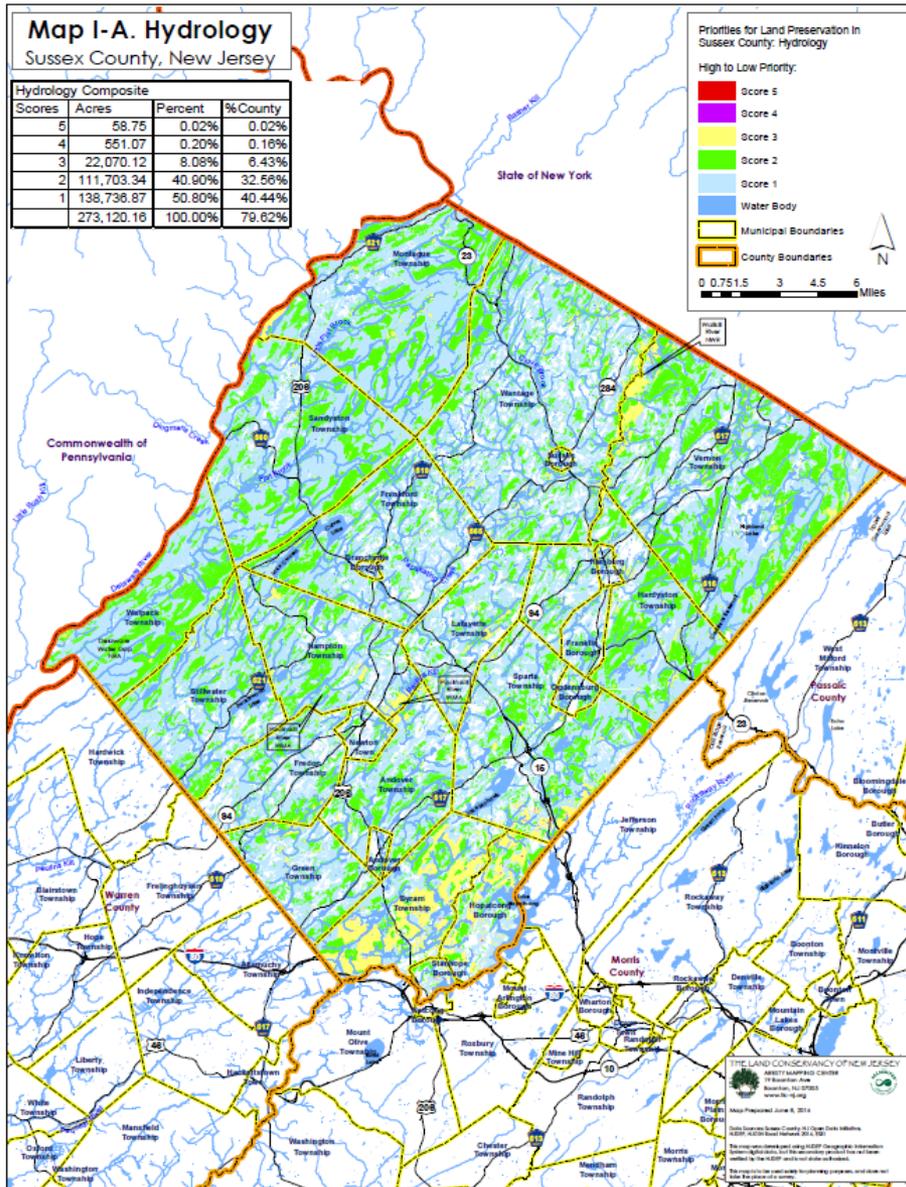
Recreational Goals

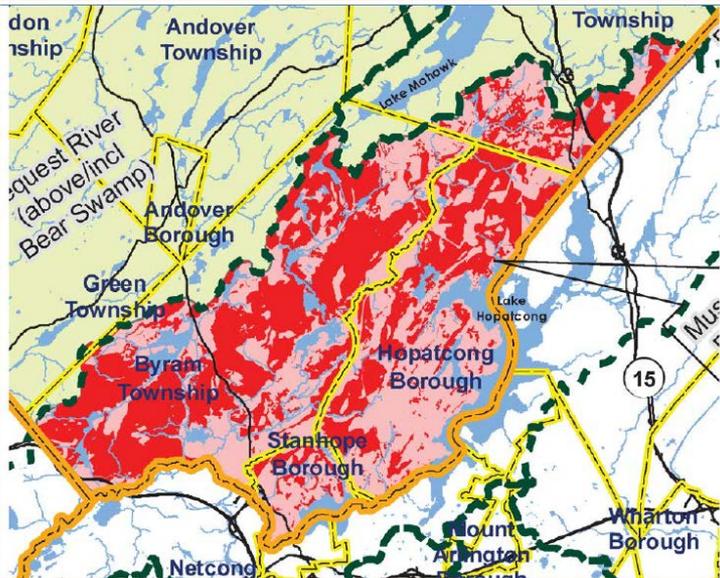
- Maintain and improve recreational facilities
- Provide walking trails
- Provide public access to Crandon Lake
- Expand exercise facilities
- Connect and extend trails



Syberg Farm

Focus Area 1: Hydrology

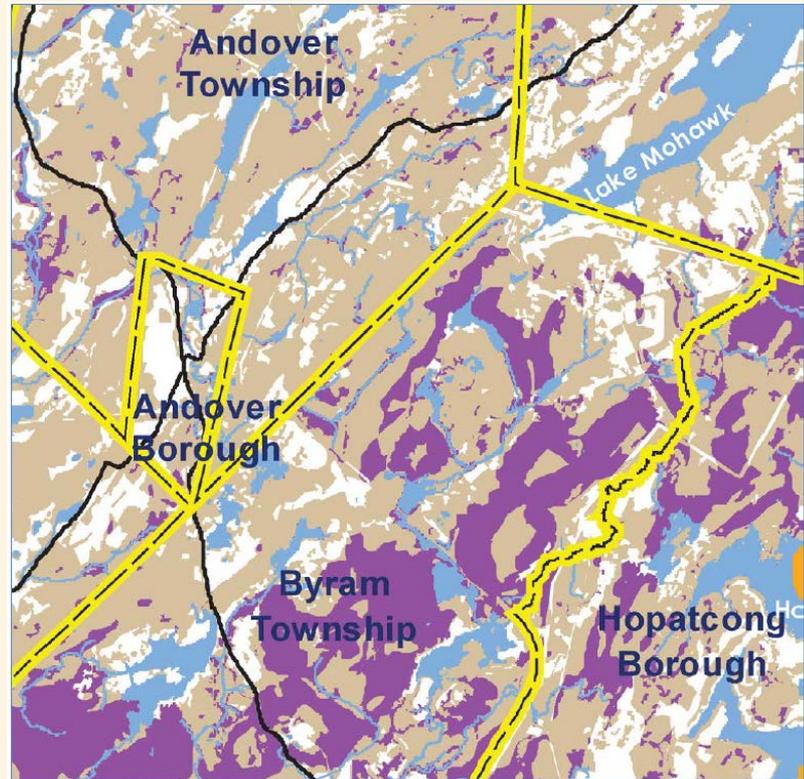
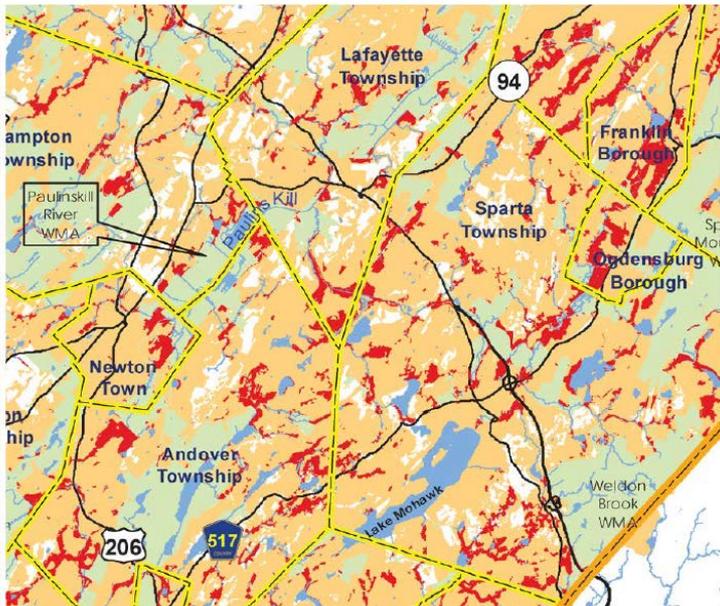




Stressed Watersheds showing the Musconetcong Watershed in Sussex County

Red = Significant Recharge Areas at 70% threshold

Pink – Stressed Watershed based on 25% of low flow margin



Hydrology Map Showing Breakdown of Scoring

Purple = Score of 3-5

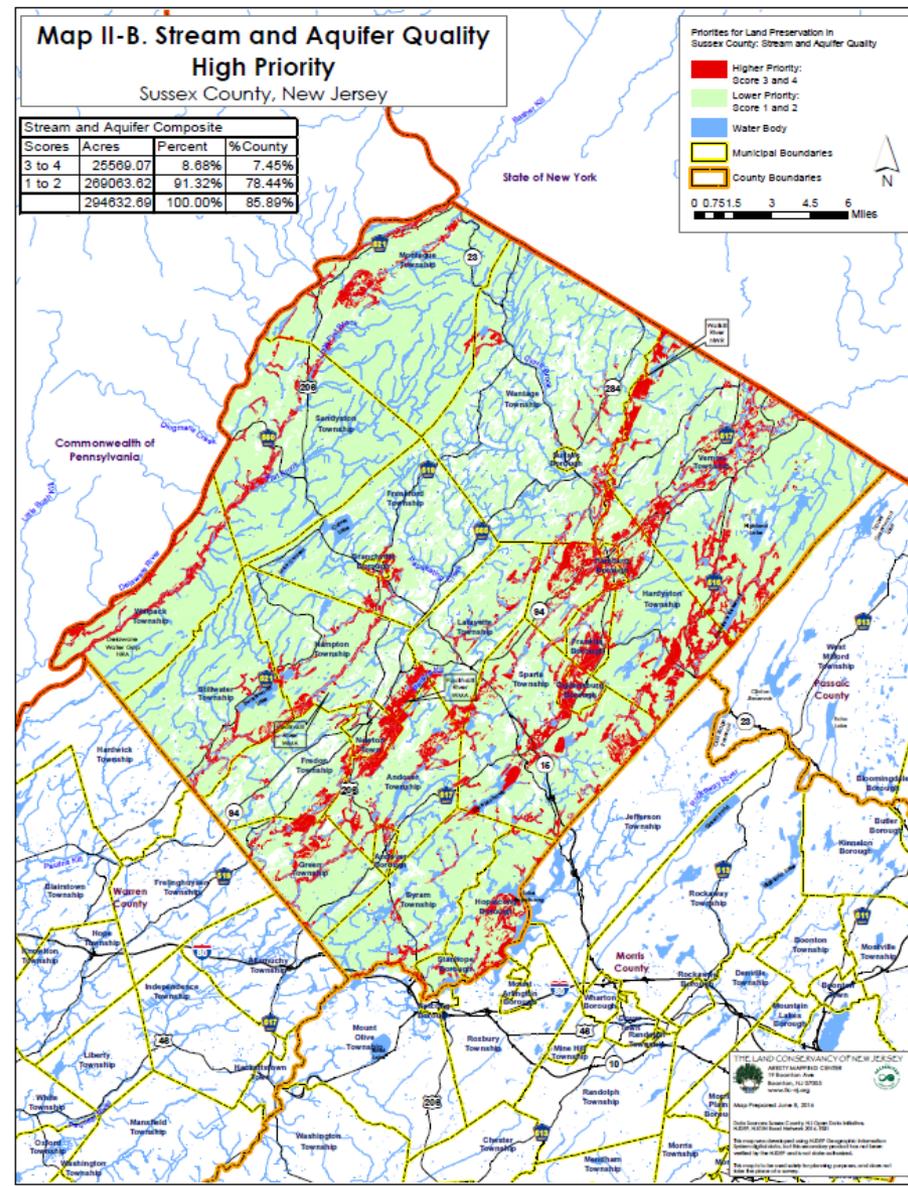
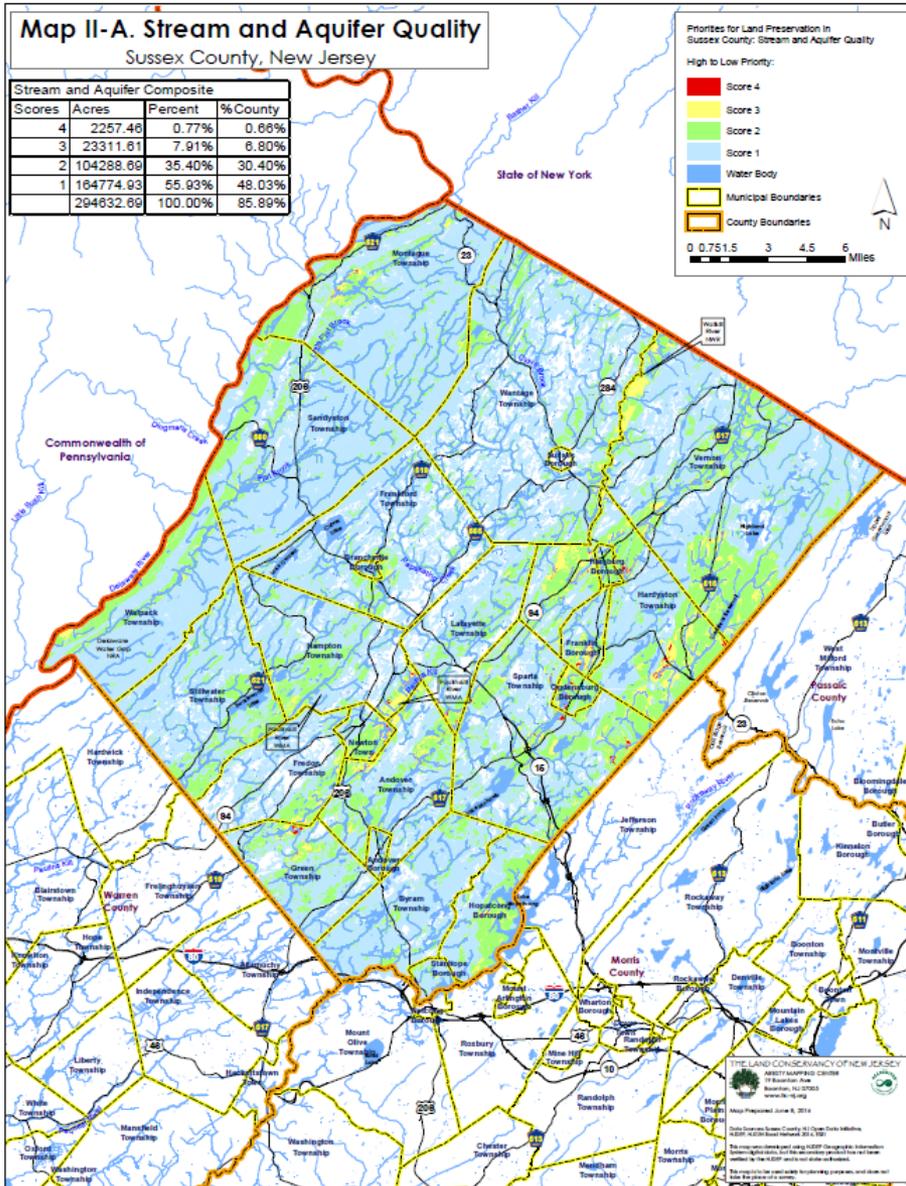
Brown = Score of 1-2

White = Score of 0

Figure 3. Excerpt from Map IV-B – Overall Composite Mapping for Sussex County

Red = higher priority areas; Tan = lower priority areas and Green = preserved land

Focus Area 2 : Stream and Aquifer Quality



Focus Area 2 : Aquatic Ecosystem Functions

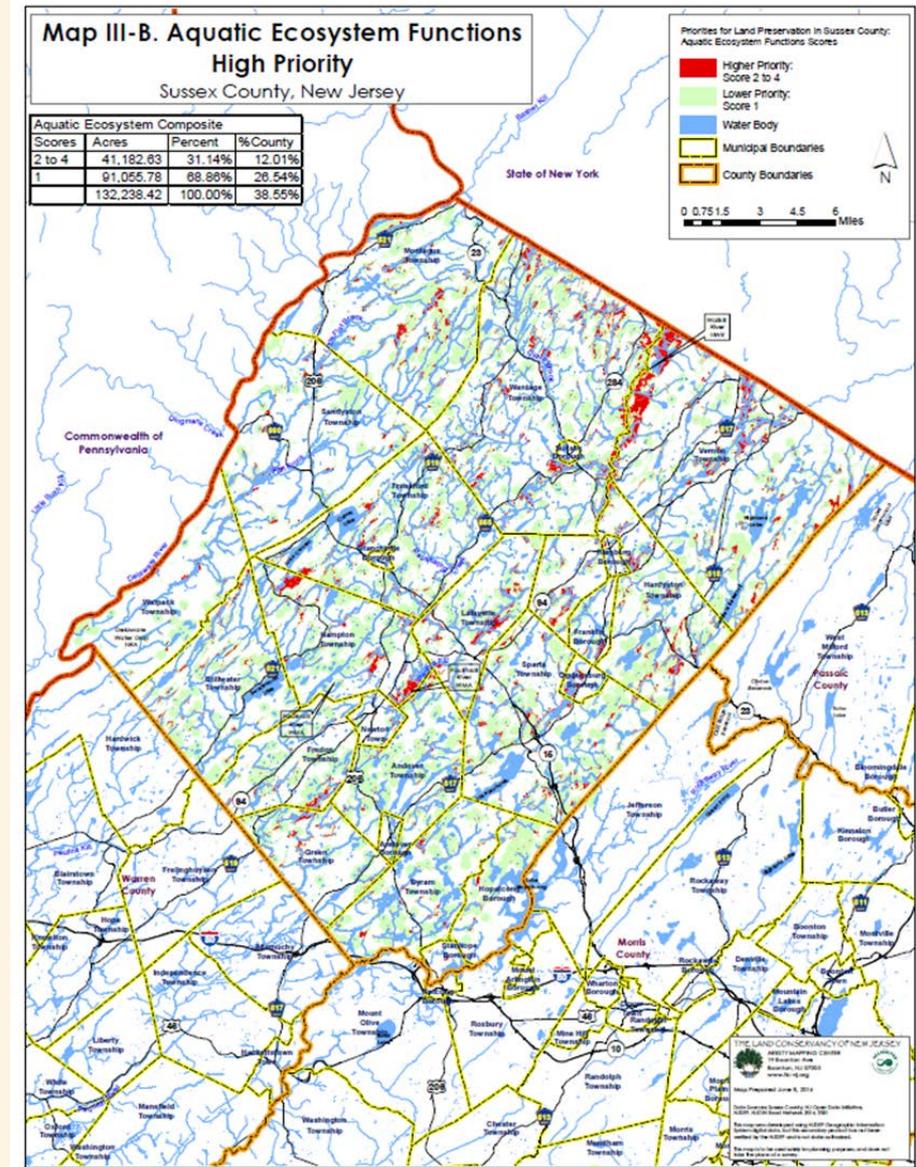
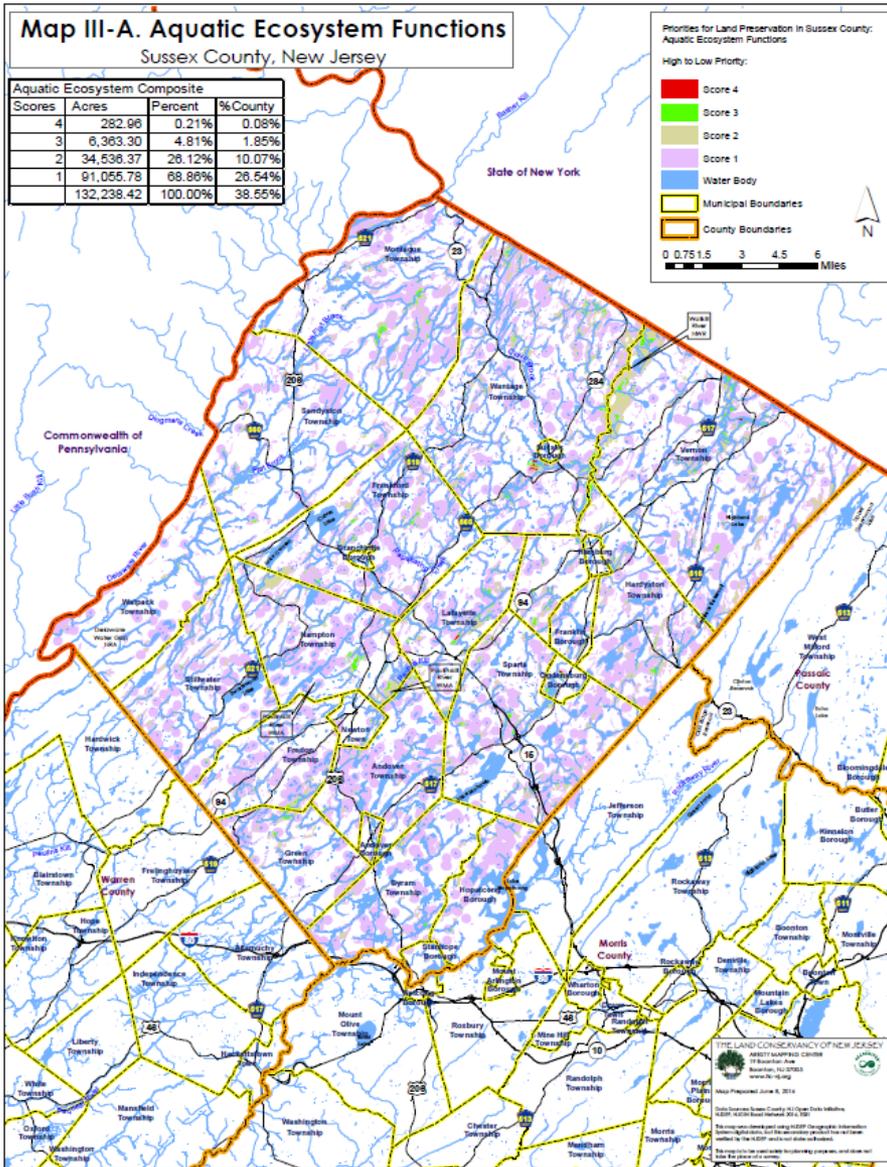
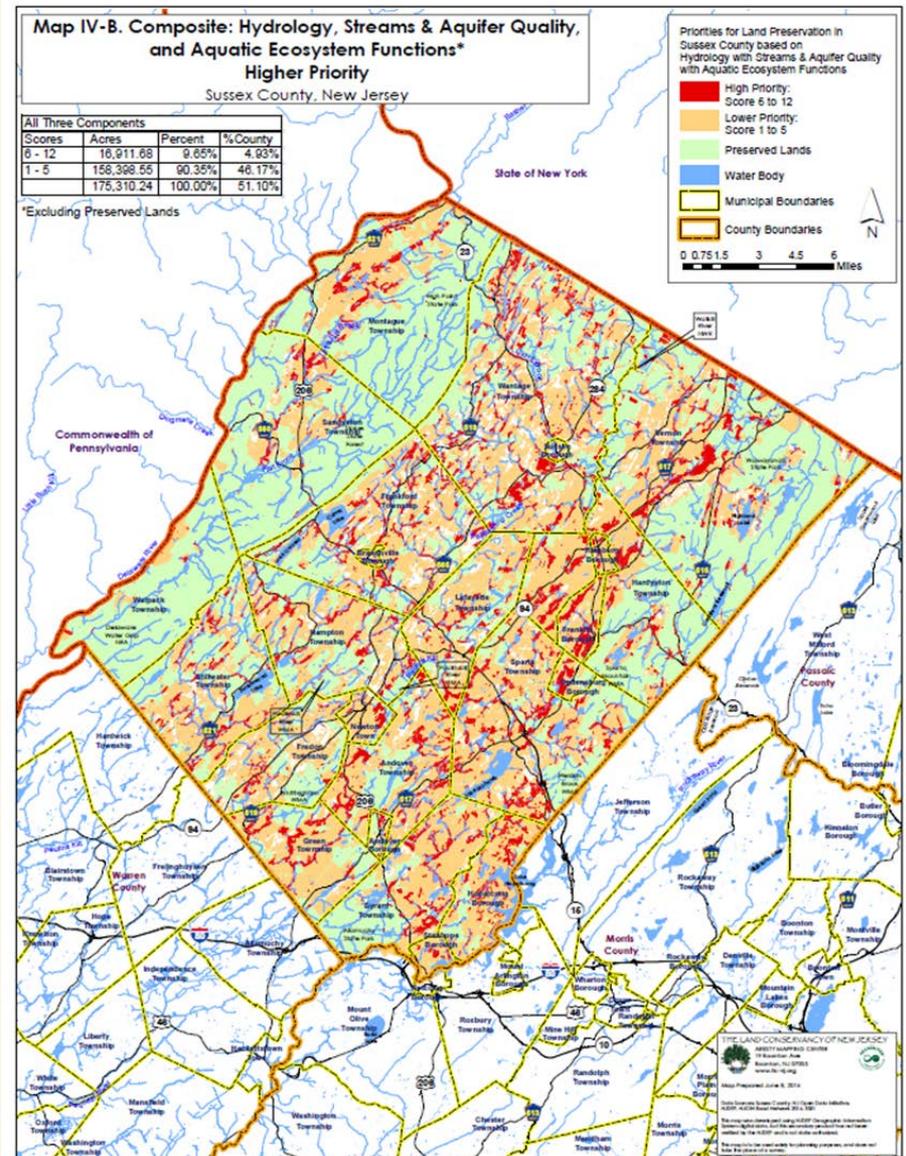
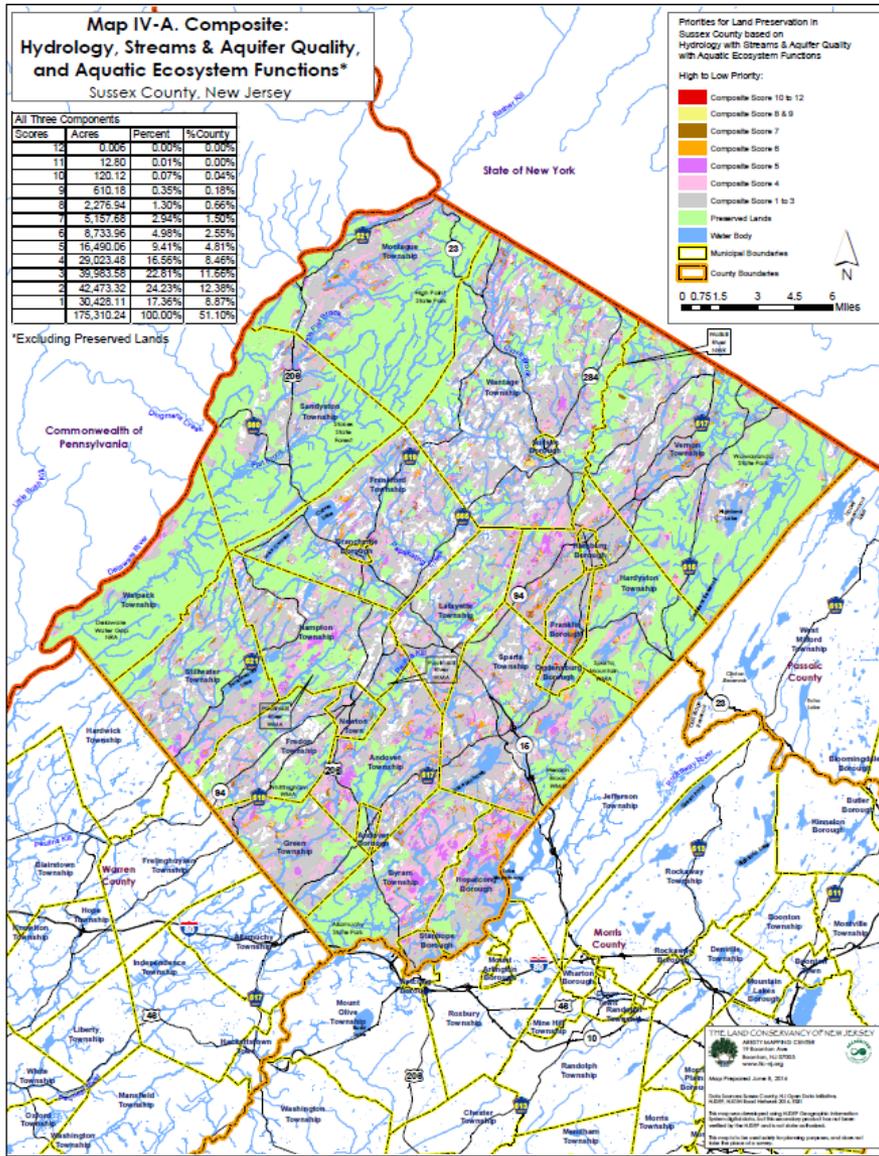


Table 1. Water Resources in Sussex County (Acreages)

Map	Acres	Percent of County
Map 1: Stressed Watersheds: Current Utilization		
Significant Recharge Areas (70% Threshold)	10,301.62	3.00%
Stressed Watershed (based on 25% of Low Flow Margin)	24,116.24	7.03%
Map 2: Prime Recharge Areas	107,236.07	31.26%
Map 3: Forest Cover (Include Wooded Wetlands)	217,112.44	63.29%
Map 4: Wetlands	46,644.01	13.60%
Map 5: Flood Hazards & Floodprone Areas	50,094.28	14.60%
Map 6: Riparian Areas	88,697.73	25.86%
Map 7: Soluble Carbonate Rocks	82,421.35	24.03%
Map 8: Public Wellhead Protection Areas		
2 Year Time of Travel	10,110.31	2.95%
5 Year Time of Travel	11,854.09	3.46%
12 Year Time of Travel	21,159.70	6.17%
Total	43,124.10	12.57%
Map 9: Source Water Areas	20,961.38	6.11%
Map 10: Headwaters and Riparian Areas		
Headwaters	61,203.65	17.84%
Riparian Areas (Total)	88,697.73	25.86%
Map 11: Unique & Unusual Aquatic Habitats		
Potential Vernal Habitat	40,763.71	11.88%
Vernal Habitat	24,128.51	7.03%
High Elevation Water Bodies	2,628.56	0.77%
High Elevation Water Bodies (include 300 feet buffer)	7,493.29	2.18%
Map 12: Aquatic Habitats for Threatened & Endangered Species	3,531.91	1.03%
Map 13: Wetland Habitat for Threatened & Endangered Species	44,555.02	12.99%

Composite of all 3 Focus Areas



Analysis and Parcel Recommendations

High Priority Lands:

Hydrology = 22,680 acres (6.6%)

Stream and Aquifer Quality = 25,569 acres (7.5%)

Aquatic Ecosystem Functions = 41,183 acres (12%)

Composite Mapping

(Hydrology; Stream & Aquifer Quality; Aquatic Ecosystem Function):

175,310 acres = 51% of Sussex County

High Priority (Excluding Preserved Lands):

16,912 acres (5%) scores 6-12 characteristics

158,399 acres (46%) scores 1-5 characteristics

High Priority Properties for Water Resource Protection within 500 Feet of Public Land:

16,912 acres High Priority Lands -

Of these: 14,776 acres are greater than 1 acre in size

9,959 acres are located within 500 feet of public land on 1,468 properties

Total acreage of these 1,468 properties = 52,159 acres

Partners:

Sussex County Municipal Utilities Authority
Walkkill River Watershed Management Group



School of Environmental & Biological Sciences
Rutgers, The State University of New Jersey



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THANK YOU!

Contact:

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