

# TOWNSHIP OF HOPEWELL

## *Environmental Resources Inventory*

This document provides 2024 updates/comments/amendments shown as text annotations on original document (use page number in footer as reference for updates)

OCTOBER 24, 2007

TOWNSHIP COMMITTEE  
PLANNING BOARD  
ENVIRONMENTAL COMMISSION  
CUMBERLAND COUNTY, NEW JERSEY

### Summary of Comments on Amendment to the Master Plan

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This document provides 2024 updates/comments/amendments shown as text annotations on original document (use page number in footer as reference for updates)

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**TOWNSHIP OF HOPEWELL  
590 SHILOH PIKE  
BRIDGETON, NEW JERSEY 08302**

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**HOPEWELL TOWNSHIP COMMITTEE** 

HAROLD BICKINGS, MAYOR  
BRUCE HANKINS, VICE MAYOR  
DUANE CRUZAN  
PAUL RITTER III  
JOSEPH SHOEMAKER

REQUIRED PLAN ENDORSEMENT COMPONENT  
*Adopted by the Hopewell Township Council*

*October 24, 2007*

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**TOWNSHIP OF HOPEWELL  
590 SHILOH PIKE  
BRIDGETON, NEW JERSEY 08302**

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**PLANNING BOARD** 

GREG FACEMYER, CHAIRMAN  
JIM MANSKI, VICE CHAIRMAN  
HAROLD BICKINGS, MAYOR  
JOSEPH SHOEMAKER  
WILLIAM CASSIDY  
BURT DOREMUS  
SCOTT ANDERSON  
DEAN TAGUWA  
LEE MIXNER  
AL CAGGIANO, JR.  
KENNY MAYHEW, ALTERNATE #1  
KEN STRAIT, ALTERNATE #2

CONSERVATION ELEMENT OF THE MASTER PLAN  
*Adopted by the Planning Board*

*October 17, 2007*

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See Hopewell Township website for current Commission membership

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TOWNSHIP OF HOPEWELL  
590 SHILOH PIKE  
BRIDGETON, NEW JERSEY 08302

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ENVIRONMENTAL COMMISSION 

DR. BOB COLE  
BURT DOREMUS  
LEE HEPNER  
JERRY LEWIS  
KEN STRAIT

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ENVIRONMENTAL RESOURCE INVENTORY  
*Adopted by the Environmental Commission*

*MAY 9, 2007*

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4.3 TOPOGRAPHY/STEEP SLOPES

Hopewell Township, like all of Cumberland County, has generally flat topography. The overall change in elevation from the Cohansey River at sea level to the high point in the north near Alloway Township is 210'. In general, the western side of town is slightly higher in elevation than the eastern as the land drains toward the Cohansey River. New Jersey Route 49 which bisects the town through the middle in a south easterly direction from Shiloh to Bridgeton is nearly level across the township at approximately 150' above sea level. The township is large, just over 35 square miles. The Cohansey River which bounds the township to the east drops just 100' over the roughly 6.5 mile length of the township where it joins the Lower Cohansey near sea level. Traveling north from the Cohansey at sea level, the elevation rises very slowly over the tidal wetlands to 30'. From the tidal area to Route 607, approximately 2 miles, the topography increases to 150'. The central portion of the township lies at approximately 150' with a few small rises to 160' or 170'. A small valley lies between Roadstown Rd. and Sewell Road where the landscape drops slightly to 90'. North of Sewell Road to Rt. 689 elevation climbs again to 150-170' then rises again to 180' above Rt. 689. A few higher spots measuring up to 210' are found in the extreme northern portion of Hopewell near Alloway Township.



Eagles nest, Photo by Carol Bell

The tidal portion of the township, in the CAFRA zone south of Roadstown Rd., is very susceptible in the near-term future, to the effects of climate change and the rise in sea level. There are two tools to assist in the planning for these events:

Here is the link to the NJ Floodmapper website and a quick image showing a 10 ft. increase in MHHW. You can play with the flood hazard and total water level controls to see various scenarios: <https://www.njfloormapper.org/map/goK2d9SfyEVUFgZ>

The second is by NOAA based on coastal LIDAR imaging of the coastal areas of the U.S. [Sea Level Rise Viewer \(noaa.gov\)](https://coast.noaa.gov/digitalcoast/tools/slr/html) <https://coast.noaa.gov/digitalcoast/tools/slr/html> You can enter increases from one to ten feet and see the changes in high tide contours in fine detail. It shows block and lot detail for our township.

The effects on properties, roads, and other important features is too significant to ignore in planning documents

Hopewell Township soils are excellent for agricultural production. Over 82% of the soils are classified as Prime agricultural soil. Nearly 2,700 acres of farmland in the Township has been permanently protected for agriculture. The moderate rainfall, approximately 42 inches per year, leaches much of the bases and carbonates, from the soil leaving many of the soils very acidic unless limed. Hopewell's soils are also excellent for building and development as very few of the soils are limiting for septic effluent. The following sites in Hopewell have historically been mined for the excellent soils for septic field construction.<sup>6</sup> **Township ordinances now prohibit soil mining in Hopewell Township.**

- Ray Harvey: Trench Road Block 82 Lot 3.01 approximately 32.5 acres
- Adamucci Farms: Barretts Run & Trench Roads Block 75 Lots 8 & 9 parts. Operations have been discontinued permitted use was completed.
- Paul Ernest: corner of Greenwich & Bowentown Roads, old borrow pit, use discontinued.

The table below describes the characteristics of the major soil series in Hopewell Township. These soils represent 84% of the soil resources in the municipality. All are prime agricultural soils except Appoquinimink and Mattapex. The Soil Mapping Units map following the table includes an exhaustive listing of all of the soil series in Hopewell Township

Table 1 Characteristics of major soil series Hopewell Township

Series Name	Soil Type	Label	% of Total	Acres	Use/Vegetation
Matapeake	Silt Loam	MbrA,B,C	31	6127.14	Cultivated Fields/Oaks
Chillum	Silt Loam	ChIA,B	16	3160.56	Cultivated fields/Wooded
Downer	Loamy Sand	DocB,C	9	1683.55	Cultivated Fields
Downer	Sandy Loam	DoeA,B	5	965.97	Cultivated Fields
Sassafras	Sandy Loam	SacA,B,C	11	2144.33	General Crops/ Truck Crops
Sassafras	Gravelly Sandy Loam	SadB,C	1	169.02	General Crops/ Truck Crops
Mattapex	Silt Loam	MbuA,B	5	975.05	Cultivated Fields
Appoquinimink	Fine Silt	AptAv	6	1161.66	Wetlands

<sup>6</sup> Cumberland County Health Department, Engineering Office Staff, Telephone conversation, June 21, 2006.

#### 4.9 Radium in Drinking Water

The NJDEP published a *South Jersey Homeowners Guide to Radioactivity in Drinking Water: Radium*.<sup>9</sup> This publication, dated April 2004, reported elevated levels of naturally occurring radioactivity in the Kirkwood-Cohansey aquifer, the primary aquifer for drinking water in Hopewell Township. Radium dissolves readily into ground water in acidic sandy soils like those present in Hopewell and the surrounding region. Exposure to radium over a long period of time is believed to increase one's lifetime risk of developing cancer. Alpha radiation is the type of particles emitted as radioactive elements decay. The test to detect elevated level of radiation in drinking water is called a gross alpha test and costs about \$150.00. The US EPA gross alpha standard for drinking water is 15pCi/L. Well water tested in the Hopewell area has shown high gross alpha tests for radium. The mitigation recommended for levels above 15pCi/L is installation of a water softener or ion exchange water treatment system costing approximately six hundred to eight hundred dollars.

#### 5.0 CLIMATE AND AIR QUALITY

##### 5.1 Climate

The following excerpt is taken in its entirety from the Cumberland County government website. "Climatically speaking, Cumberland County is fortunate. Because of its southerly location, its many miles of frontage on the Delaware Bay, and its site as part of the southern New Jersey peninsula, the county has a relatively mild climate. The modifying influence of the Atlantic Ocean and the Gulf Stream tempers the climate of the region and affords its inhabitants longer summers and milder winters than inland regions of similar latitude. In fact, the entire area of southern New Jersey is distinguished by its lack of extremes. While it has a four season climate, the large nearby bodies of water tend to retard the seasons. At times the high humidity renders the cold of fall and winter very penetrating, and summer heat oppressive. An average annual temperature of 54° F. ranks the area high in the state. Mean seasonal temperatures within the county vary from 2° to 6°. The lowest temperature recorded is 8° below zero and has occurred both in January and February. The highest temperature recorded is 104° and had occurred in both July and August. The average annual temperature ranges from about 56° Fahrenheit in the southern part of the county to about 52° in the north. Average monthly high temperature registered at Bridgeton reaches approximately 77° in July; the average low point is 17° and occurs in January.

There is some variation in the length of the growing season in different parts of the county, but the average length is 191 days in Bridgeton. This is considered a fairly long season which enables the farmers to make very early plantings in the spring and to rely on crops maturing late in the fall. The average date of occurrence of last killing frost in spring is April 16; however the latest recorded frost was May 29. The average date of the first occurrence of killing frost in fall is October 24. The latest recorded killing frost was December 22.

<sup>9</sup> DEP's Radiation Protection and Release Prevention Program, [www.state.nj.us/dep/rpp/radwater.htm](http://www.state.nj.us/dep/rpp/radwater.htm)

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Private well testing by the NJ Department of Health under the Private Well Testing Act (PWTA 2002) was offered to township well properties (most of the Township) over two years ending in 2022 through a program sponsored by the Environmental Commission. 38 wells were tested for gross alpha and lead. Results were: For gross alpha 6 passed, 32 failed for raw water; for treated water (32) 16 passed and 16 failed. For lead: 11 wells lead was not detected; in 27 wells lead was detected. 17 had lead levels considered acceptable for the NJ Ground Water Quality Standard. As stated, there is no safe level for lead.

Hopewell is located entirely in the Outer Coastal Plain. Its sandy soil is very acidic, ranging from pH of 4.15 to 5.99, making the groundwater very likely to be high in both categories. Homeowners should employ water treatment if tests indicate the presence of either contaminate.

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Average and projected climate data is revised annually and does not materially impact use of this ERI; more current data is available from a number of websites; some updated statistics include:

1. Average high temperatures occur in July, with an average high of 86 degrees and an average low of 68 degrees. Average low temperatures occur in January, with an average high of 41 degrees and an average low of 26 degrees.
2. There is a 50% chance of spring frost on April 15. The risk of a fall frost begins around October 14. Frost is likely to occur by November 7.
3. The average 12-month precipitation increased 3.1 inches from May 1900 to April 2023. The average precipitation during this period was 41.4 inches.

From several standpoints, the precipitation aspects of the climate of Cumberland are of more concern than those of temperature. Cumberland County is well-watered by most standards, but it is still among the drier counties of New Jersey. Rainfall during an average year ranges from about 42" in the south to 45" in the north. A 44" average annual precipitation rate, however, ranks Cumberland fairly close to the general average for the state. In the wettest year on record, the county had an average precipitation of 61", 17" more than normal; during one of the driest years on record (1964), the county received only 32" of rainfall. Even in the driest year, however, there seems to be an ample supply of water below ground. In this sense, the county is fortunate that its source of water is underground aquifers rather than surface bodies which are more affected by reduced rainfall. The monthly pattern of precipitation demonstrates the relative uniformity of precipitation throughout the year, with the slightly higher values occurring during the summer months. There is a primary late summer maximum of precipitation and two secondary maxima, one in the fall and another in (early) spring. Precipitation data reflect the late summer maximum characteristic of the Atlantic Coast and are traceable to hurricanes and tropical storms. Some difference between July-August precipitation at different locations within the county may be attributed to summer thundershowers at interior locations as opposed to "cool" bayshore locations. The snowfalls are usually light, and the snow generally melts quickly. Precipitation over the years, nevertheless, when compared with many parts of the United States, has normally been spread fairly evenly throughout the year. However, exceptionally sandy conditions coupled with several drought periods occurring during the growing season have led to local growers to rapidly expand irrigation facilities.

Prevailing wind directions in the county are generally from the north or northeast in the late fall, winter, and spring months and from the southeast, south, or southwest in the summer and early fall months. Normally, the amounts of time during which the sun shines equals 60% of the total possible in the county, which compares with the 50% in the northern New Jersey counties".<sup>10</sup>



5.2 Air Quality

The following chart<sup>11</sup> ranks Cumberland County against other counties in the United States for air quality. Green lines indicate clearest air for the parameters tested, red lines indicate the worst. By virtue of its location on the highly urbanized northeastern corridor of the US, Cumberland County is within the Philadelphia-Wilmington-Trenton non attainment area for failing to meet the national ambient air quality standards levels for Sulfur Dioxide and Ozone. Level are generally higher than the nationwide average for all six regulated pollutants: Carbon Monoxide, Nitrous Oxide, Volatile Organic Compounds, Sulfur Dioxide, Ozone, and Particulate Material. Notwithstanding the national ranking, the NJDEP Air Quality Index Summary listed the Delaware Bay Region, including Hopewell Township, as having 278 days of good air quality, 82 days of moderate air quality, 4 days with unhealthy for sensitive groups and 1 day with unhealthy air quality for the year 2005.<sup>12</sup> A snapshot of real time air quality indicating good air quality ranking for nearby Millville in Cumberland County is also provided.

<sup>10</sup> <http://www.co.cumberland.nj.us/facts/climate.htm>

<sup>11</sup> Scorecard, The Pollution Information Site.  
[http://www.scorecard.org/envreleases/cap/county.tcl?fips\\_county\\_code=34011#maps](http://www.scorecard.org/envreleases/cap/county.tcl?fips_county_code=34011#maps)

<sup>12</sup> <http://www.state.nj.us/dep/airmon/aiqios.pdf>

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Air quality data is generally updated annually and does not materially impact use of this ERI. Current and historical data regarding data is generally updated annually and does not materially impact use of this ERI. Current and historical data regarding local air quality can be found on a number of different websites; this website provides some historical data and compares Cumberland County to the New Jersey State mean values: <http://www.usa.com/cumberland-county-nj-air-quality.htm>; current air quality can be found at this website: <https://www.airnow.gov/?city=Bridgeton&state=NJ&country=USA>

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These websites are not longer available and many of the other hyperlinks in the original ERI no longer work



Coastal Area Facilities Review Act, CAFRA, was passed initially in 1973 to control adverse impacts from major industrial sites, public works, power plants, hazardous materials storage, and food processors on water quality and estuarine habitat. Amendments adopted in 1993 expanded CAFRA's jurisdiction to include all development within regulated coastal areas. The Department of Environmental Protection and the State Planning Commission worked together to develop consistent rules which based CAFRA regulations upon the State Development and Redevelopment Plan. Impervious coverage limits which vary by State Planning Area designations are the basis for the CAFRA regulations.

Generally CAFRA will require preparation of an environmental impact statement for activities which fall within the following categories:

- development is located upon the beach or dune
- development is within 150' of the mean high water line MHWL
- development outside of MHWL but is 25+ residential units or 50 parking spaces
- public or industrial uses
- development within 500' of MHWL which includes 75 units or 150 parking spaces

Generally, the closer you are to the water the more likely your property will be regulated. CAFRA contains exemptions for certain minor activities such as maintenance, plantings, decks or similar structures at a residence, rebuilding a damaged structure on the same building footprint (if it was damaged after 7/19/94), and enlarging a dwelling without increasing its footprint or number of units. Hopewell Township has a significant amount of land within the CAFRA regulated area, specifically those lands south of Roadstown Road. If after checking the CAFRA map you think a permit may be required for an activity, the NJDEP website provides guidance and a checklist for review.<sup>40</sup>

See the CAFRA map below.

## 7.0 AGRICULTURE, WOODLANDS AND NATIVE VEGETATION:

### **7.1 Agriculture and Woodland Management**

Over 74% of the land area Hopewell Township is assessed for agricultural production. The main commodities produced are vegetables, field crops, fruit orchards and nursery crops. The southern regional office of the New Jersey Forest Service has woodland management plans on file for 9 farms, covering 173,79 acres in Hopewell Township.<sup>41</sup> The most commonly harvested species for saw timber are Oaks, Pines, Tulip Tree and Sweet Gum. Firewood species harvested are most often oak and cherry wood. Some farms replant after timber harvest and some manage timber production through natural regeneration.

<sup>40</sup> www.state.nj.us/dep/landuse/coast.html

<sup>41</sup> Dave Findley, NJ Forest Service Southern Regional Office, telephone interview, June 14, 2006.

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See Hopewell Township tax records for the current percentage of land area assessed as qualified farmland.

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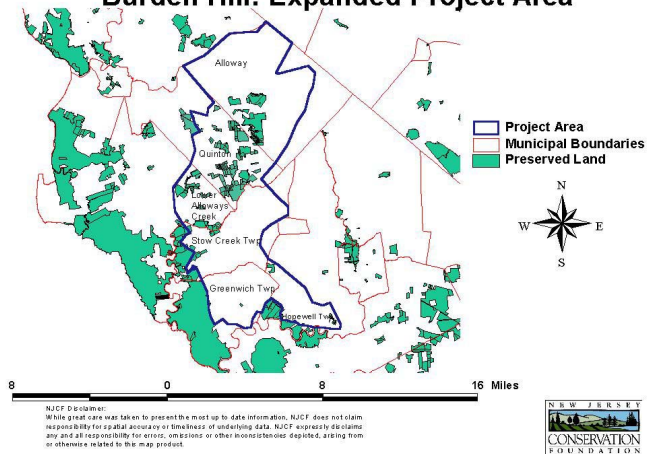
The number of approved woodland management plans may have changed. Contact the Southern Regional Office of the New Jersey Forest Service for the current number of woodland management plans on file for Hopewell Township.

7.2 Mature Trees and Woodlands:

A small finger of the 15,000 acre Burden Hill Forest Complex extends into Hopewell Township. This important upland, highly un-fragmented forest has been added to the area targeted for preservation through the New Jersey Conservation Foundation. The forest provides excellent nesting habitat for migratory neo tropical songbirds. Burden Hill woods are a national stronghold for the federally endangered swamp pink as well as other rare plants. This area has outstanding watershed land with very high infiltration rates for ground water recharge, some as high as 10-15 inches per year. Numerous tributaries and headwaters of Stow and Alloways Creeks can be found in the area.<sup>42</sup> The ridge vegetation consists of pineland, forested headwaters and native vegetation of the coastal plain. **In addition, a large stand of Atlantic White Cedar exists adjacent to Elk Lake.** An inventory of significant trees in Hopewell Township can be found in appendix 4 of this document. The largest threat to mature woodlands and interconnected forest habitat such as Burden Hill is residential development. In response, a landowner outreach effort has been coordinated in partnership with NJ Green Acres, Natural Lands Trust, Littoral Society, and NJCF to obtain fee purchases and conservation easements on lands for trail and greenway connections through out the forest complex.<sup>43</sup>

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This large stand of Atlantic White Cedar has been impacted by changing hydrology that resulted from failure of the Elk Lake earthen dam. In addition, the State of New Jersey purchased Elk Lake and portions of the surrounding property subsequent to publication of the original ERI. The property and former lake are now part of the Cohansey River Wildlife Management Area. (<https://dep.nj.gov/njfw/cohansey-river-wma/>)

**Burden Hill: Expanded Project Area**



<sup>42</sup> Matt Blake, American Littoral Society, electronic communication, April 19, 2007.

<sup>43</sup> Matt Blake, American Littoral Society, telephone interview, June 26, 2006.

**8.0 WILDLIFE AND BIODIVERSITY**

**8.1 Wildlife**

Hopewell Township is part of the Delaware Bayshore, or Delaware Bay Watershed, which stretches along the southwest coast of New Jersey. The Delaware Bayshore is known globally for the wildlife associated with its many wetlands. A major stop on the Atlantic flyway, the Delaware Bayshore offers a resting place for over a million migratory birds each spring.<sup>51</sup> The area has a stable population of Bald Eagles, tiger salamanders, southern gray tree frogs and 30 other threatened and endangered species. More than 200 migrant and resident species of finfish use the Delaware estuary for feeding, spawning, or nursery grounds, including sharks, skates, striped bass, shad, sturgeon, American eel, blueback herring, Atlantic menhaden, alewife, bluefish, weakfish and flounder. Oysters and blue crabs are important shellfish in the area. The estuary is home to the largest population of horseshoe crabs in the world.<sup>52</sup> ~~Every Friday evening WSNJ, 1240 on the am radio, airs a fishing show relating fish catch data and species running in the Delaware watershed.<sup>53</sup>~~

Diverse wildlife populations are not only valuable to environmental health but also to the tourism industry in the region. The Cohansey River, which bounds Hopewell Township, is famous for anadromous fish, salt water fish which breed in fresh water, runs and oyster beds at the mouth of the river. **Recreational fishing, crabbing and shell fishing are a growing economic engine for the area with fishermen spending an average of \$62-\$100 a day<sup>54</sup>.** The largest active Bald Eagle nesting area in New Jersey is located in Hopewell Township and Bared owls share the forested wetlands with the Cooper's Hawk and Cope's Gray Tree frogs. Thousands of Birdwatchers gather in the area each spring and fall to observe the migration of millions of songbirds and raptors.



Cope's Gray Tree frog Photo by J. D. Willson

**8.2 New Jersey's Landscape Project**

In 1994, the New Jersey Division of Fish and Wildlife's Endangered and Nongame Species Program, ENSP, created a large scale approach to protecting rare and endangered wildlife species. The Landscape Project is an ecosystem level identification system which focuses on large areas which are ecologically similar with regard to plant and animal communities. Computer generated mapping of critical habitats for threatened and endangered species is divided into 5 geographic regions: The Delaware Bay, Pinelands, Piedmont Plains, Skylands and Atlantic

<sup>51</sup> Honigfeld, Harriet, B., *Charting a Course for the Delaware Bay Watershed*. New Jersey Conservation Foundation, Bamboo Brook, 170 Longview Road, Far Hills, New Jersey, 07931, c. 1997.

<sup>52</sup> www.nj.gov/dep/watershedmgt/delaware-estuary.htm.

<sup>53</sup> Bob Brewer, Cumberland County Department of Planning and Economic Development, telephone interview, June 13, 2006.

<sup>54</sup> www.nj.gov/dep/watershedmgt/delaware-estuary.htm

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Economic data is not current, but original source no longer available and unable to update

**8.3 Hopewell Rare and Endangered Species:**

The Natural Heritage Database and the Landscape Project habitat mapping identified the following rare or endangered wildlife species which have occurred in Hopewell Township.

American kestrel	<i>Falco sparverius</i>	Increasing/Stable
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened/Endangered
Barred owl	<i>Strix varia</i>	Threatened
Carpenter's frog	<i>Rana virgatipes</i>	Special Concern
Cooper's hawk	<i>Accipiter cooperii</i>	Threatened
Cope's gray treefrog	<i>Hyla chrysoscelis</i>	Endangered
Eastern box turtle	<i>Terrapene Carolina</i>	Special Concern
Eastern kingsnake	<i>Lampropeltis g. getula</i>	Undetermined
Eastern meadowlark	<i>Sturnella magna</i>	Declining/Stable
Fowler's toad	<i>Bufo woodhousii fowleri</i>	Special Concern
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Threatened
N. diamond back terrapin	<i>Malaclemys terrapin terrapin</i>	Special Concern
Savannah sparrow	<i>Passerculus sandwichensis</i>	Threatened
Spotted turtle	<i>Clemmys guttata</i>	Special Concern

**8.4 Bald Eagle Project**

The Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) biologists and volunteer observers located and monitored bald eagle nests and territories. A new record high of 53 eagle pairs was monitored during the nesting season; 48 of those were active (with eggs) and five more were territorial (in a nest area). Southern New Jersey remained the state's stronghold, with 80 percent of the nests in Cumberland and Salem counties. Three new nests were found this year in northern New Jersey. Forty nests were successful in producing 64 young, for a productivity rate of 1.33 young per active nest. ENSP staff banded and took blood samples from 16 eaglets at 10 nests. Eight nests failed to produce viable hatchlings and for the most part the causes were unknown. ENSP staff, regional coordinators, and volunteers reported a total of 179 bald eagles counted in the January 2005 annual Midwinter Bald Eagle Survey. Thirty-one eagles were recorded in north NJ and 148 in the south. The state's eagle population would not be thriving without the efforts of the dedicated eagle volunteers who observe nests, report sightings, and help protect critical habitat.<sup>55</sup> In Hopewell, a nest along the Cohansy River west had a nesting pair which had an unexplained nest failure.

<sup>55</sup> Abstract :New Jersey Bald Eagle Management Project 2005.  
<http://www.state.nj.us/dep/fgw/ensp/pdf/eglprt05.pdf>

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See NJ Division of Fish and Wildlife's website for current status of bald eagle nesting (<https://dep.nj.gov/njfw/wildlife/raptors-in-new-jersey/>); there were more than 220 nesting pairs of eagles in 2022

8.5 Conservation Incentive Programs

The following state and federal grant programs exist to fund conservation and enhancement of wildlife habitat:

- ~~Landowner Incentive Program (LIP), US Fish and Wildlife Grant administered by the DEP Endangered and Nongame Species Program. 75% project cost 25% landowner cost. Must contribute to enhancement of at least one rare species or its habitat. Grassland projects, migratory stopovers.~~
- ~~Wildlife Habitat Incentives Program (WHIP), US Fish and Wildlife and NRCS program to improve fish and wildlife habitat. Technical and financial assistance, 75% funding, minimum 5 acres. Grassland restoration, riparian buffers, invasive species eradication, early successional habitat restoration. 5-10 year plan priority.~~
- Wetlands Reserve Program (WRP), NRCS program to protect restore and enhance wetlands. Permanent easements, 30 year easements, 10 year easements, 75% restoration cost.
- Conservation Reserve Program (CRP), USDA and FSA program. voluntary enrollment in removal of marginal land from production. \$100-150 per acre. 50% of conservation practice costs.
- Partners for Fish and Wildlife, US Fish and Wildlife program, 50% cost share, financial and technical assistance, enhancement of Federally listed species, migratory birds, anadromous fish, marine mammals, 10 year easement.
- Private Stewardship Grant Program (PSGP), US Fish and Wildlife program. Up to 90% cost share for enhancement of at risk species, invasive eradication, stream buffers, planting of native vegetation, competitive funding in north east.
- Forest Land Enhancement Program (FLEP), Federal program long term management of private forest. 75% cost share technical and financial assistance, 10 year easement, minimum 5 acres.

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Based on congressional action and funding, program availability has changed since publication of the original ERI
- Author: Subject: Cross-Out Date: 11/20/23, 1:34:24 PM  
LIP program no longer exists
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WHIP program is now part of NRCS EQIP program, has different priorities, and does not appear to be available in NJ

9.9 POLLUTION AND CONTAMINATED SITES

Five superfund sites impacting the Cohansey Aquifer in Cumberland County have been identified.<sup>56</sup> All are located in the City of Vineland. One project is ongoing at the Vineland Chemical Company, a former pesticide manufacturer where soil is being washed and river sediments are excavated, washed and re-deposited. Also as a part of treatment for the Chemical Company site, Union Lake is being dredged and ground water is being treated. One project is still under review for remediation by the EPA at a dry cleaner site where 16 private wells were contaminated with volatile organic compounds. The other three projects are completed or no further action is required.

One active contaminated site in Hopewell Township has been registered by the NJDEP, ID# 001824. That site, Durham's Auto Repairs had a gasoline discharge from an underground storage tank. A new well is required and soil contamination remediation is necessary. No new cases of immediate environmental concern, IEC, which cause acute threat to human health or a direct threat to drinking water of the state, have been registered as of May 31, 2006.<sup>57</sup> Contaminated sites are mapped on the well head protection map found in section 6.5 of this document. In addition, Block 76 Lot 35, known as the convenience center, is a closed landfill known contaminated site with a closed plan. ~~There are monitoring wells on site with quarterly data available in the municipal building. These show good results, below the ground water levels specified by the DEP, since the old landfill was closed.~~

10.0 SOLID WASTE AND RECYCLING

Hopewell Township residents take trash and recyclables to the convenience center on Trench Road or contract privately to have trash picked up. Solid waste is landfilled at the Cumberland County Landfill located in Deerfield Township. The landfill is operated by Cumberland County Improvement Authority, covers a 75 acre site and accepts 550 tons of material per day. The projected life of the landfill is through 2016.<sup>58</sup> Steve Wymbs, director of the facility, describes the landfill as the best class B landfill in North America. The leachate from the landfill is captured, pretreated, and discharged into the sewage treatment plant in Bridgeton. The facility is one of two closed loop system landfills in the state of New Jersey. Other innovations include a tire shredder capable of shredding 1,800 car tires per hour into a 3" by 6" shred. The shred is used at the toe of the slope on active landfill cells and acts as a drainage medium to facilitate percolation of stormwater into the leachate system and reduce mosquito infestation.<sup>59</sup> The landfill has a materials separating facility for recyclables and boasts the highest recycling rate in New Jersey. 80% of the residents in the county have curbside pick up of recyclable materials. Hopewell Township has over 70 miles of roads and does not have curbside pick up. Hopewell has a convenience center to collect recyclables and used motor oil. The landfill has an agricultural plastics recycling center, one of only two in the state. Greenhouse and nursery plastic film is collected for a cost of \$20 per ton. Most of the plastic is exported to China and reused as construction and mulch film. In addition, five collection sites are operated to collect and

<sup>56</sup> www.epa.gov/superfund/sites/npl/nj.htm#statelist.  
<sup>57</sup> Robert Steinhagan, case manager New Jersey Department of Environmental Protection, Site Remediation and Waste Management. Telephone interview May 31, 2006.  
<sup>58</sup> Denis DeMatte, Cumberland County Improvement Authority, telephone interview May 31, 2006.  
<sup>59</sup> Steve Wymbs, Director of Cumberland County Landfill, telephone interview, May 31, 2006.

- Author: KAS Subject: Sticky Note Date: 2/3/24, 11:34:39 AM  
Check with USEPA for current status of superfund sites in Cumberland County. Superfund sites in Vineland are not currently impacting groundwater quality in Hopewell Township.
- Author: KAS Subject: Sticky Note Date: 2/3/24, 11:39:11 AM  
Check NJDEP website for list of currently active contaminated sites; this particular site is no longer listed as active
- Author: KAS Subject: Cross-Out Date: 2/3/24, 11:44:00 AM  
Results from most recent sampling of the monitoring wells meet NJDEP standards.
- Author: KAS Subject: Sticky Note Date: 2/3/24, 11:56:59 AM  
Data statistics on the volume of trash and recycling in this paragraph are outdated. Check with the Cumberland County Improvement Authority (CCIA) for current statistics regarding operation. For example, the landfill has been expanded and remains in operation; only certain types of plastic can now be recycled; and percentage of material recycled has changed. The Hopewell Township convenience center has recently been expanded to improve operations, and manages waste as directed by the CCIA.

redistribute 20,000 pounds of nursery containers and plastics bedding plant trays. Pesticide containers are collected from all licensed pesticide applicators in a center in Upper Deerfield and there are 3 household hazardous waste and electronics disposal days per year.<sup>60</sup>

## 11.0 ENVIRONMENTAL PLANNING AND CONSERVATION OPTIONS


### 11.1 Farmland Preservation


Hopewell Township adopted a Farmland Preservation Plan Element of the Master Plan in November, 2004. The plan details Hopewell Township's plan to develop the agricultural industry by "1) preventing and minimizing the incursion of large scale residential development into its agricultural zones, and 2) by 'staying out of agricultures way' by not hindering or restricting the private sector's efforts to change flex and innovate as the agricultural industry evolves over time."<sup>61</sup> As of February 20, 2007, Hopewell Township has permanently protected 3,142 acres of farmland on 26 farms from development through the New Jersey Farmland Preservation Program. See Preserved Lands Map below. A broad expansion of the Township's participation in the Farmland Preservation Program is anticipated through the award of a \$1,500,000 Planning Incentive Grant from the State Agriculture Development Committee. The list of Hopewell farms eligible to participate in funding for preservation through this grant includes 4,800 acres. The township staff, volunteers and non-profit groups are all working collaboratively to reach out to landowners to accelerate participation in the preservation of farmland within the Township.


### 11.2 Transfer of Development Rights


The Transfer of Development Rights Program which is currently under review by the Township will proactively address environmental and agricultural protection issues through clustering development where infrastructure can support growth and away from the heart of the active agricultural and sensitive environmental areas. Environmentally sensitive areas of preserved farms, along stream corridors, wetlands, and forested areas, will be identified and preserved.

### 11.3 Non-Profit Sector

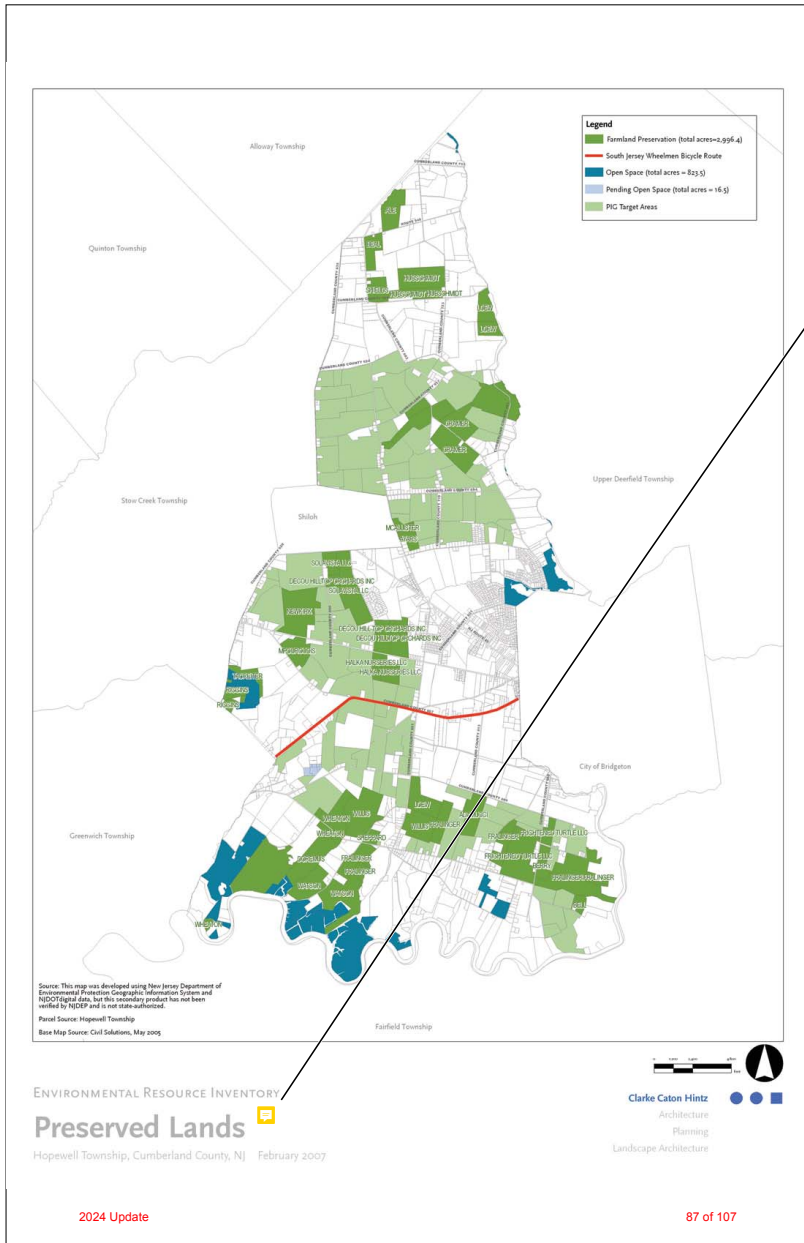
Non profit environmental groups such as New Jersey Audubon Society and the American Littoral Society are actively seeking landowners to increase participation in wildlife conservation incentive and land preservation programs offered through the Natural Resource Conservation Service, NRCS, and the NJDEP.<sup>62</sup> 

 Author: KAS Subject: Sticky Note Date: 2/3/24, 12:13:34 PM  
Check with the Cumberland County Agriculture Development Board (CADB) for current status of farmland preservation in Hopewell Township. Considerable additional acreage has been preserved since 2007.

 Author: KAS Subject: Sticky Note Date: 2/3/24, 12:19:24 PM  
Hopewell Township was unable to implement a Transfer of Development Rights Program. TDR programs require close coordination and approval by the New Jersey State Planning Commission and require a viable financial structure. Hopewell Township is no longer pursuing this type of program.

 Author: KAS Subject: Sticky Note Date: 2/3/24, 12:21:03 PM  
See Section 8.5 above for additional information on conservation incentive programs.

<sup>60</sup> Ken Hildreth, Hopewell Township recycling coordinator, telephone interview May 31, 2006.  
<sup>61</sup> Farmland Preservation Plan Element of the Hopewell Township, November, 2004, p. 14.  
<sup>62</sup> Matt Blake, American Littoral Society, telephone interview, June 2006.





11.4 Open Space Protection

The New Jersey Department of Environmental Protection Green Acres program, non profit groups and PSE&G have protected approximately 850 acres of open space in Hopewell Township through conservation easements and fee simple purchase. The Cohansy River Wildlife Management area is located in the southern portion of the Township and was protected as part of the PSEG wetlands enhancement initiative along the lower Cohansy River. While the Green Acres program does not target specific parcels for preservation, program staff would support expanding the wildlife management area to include more water bodies and lands along the wetland/upland edge which makes up important wildlife habitat.<sup>63</sup> Green Acres efforts to secure a conservation easement on the Girl Scout Camp in Hopewell are ongoing. A Green Acres purchase of the Elk Lake Estate from the Blake family is also pending.

- Author: KAS Subject: Sticky Note Date: 2/3/24, 12:04:29 PM  
See the Hopewell Township Open Space and Recreation Plan (<http://hopewelltwp-nj.com/DocumentCenter/View/485/OSRP-in-Full-PDF>) for further information on areas targeted for preservation/protection
- Author: KAS Subject: Inserted Text Date: 2/3/24, 12:02:47 PM  
PSEG
- Author: KAS Subject: Inserted Text Date: 2/3/24, 12:03:06 PM  
OVER
- Author: KAS Subject: Cross-Out Date: 2/3/24, 12:06:51 PM  
, together with PSEG's Estuary Enhancement Program, protects critical areas
- Author: KAS Subject: Sticky Note Date: 2/3/24, 12:02:05 PM  
Check NJDEP websites for current status of state-owned and protected parcels. The former Girl Scout Camp at Sheppards Mill Pond and land surrounding Elk Lake have now been preserved as part of the Cohansy River Wildlife Management Area.
- Author: KAS Subject: Sticky Note Date: 2/3/24, 12:07:53 PM  
See the Hopewell Township Open Space and Recreation Plan (<http://hopewelltwp-nj.com/DocumentCenter/View/485/OSRP-in-Full-PDF>) for further information on recreational areas and needs within the Township

11.5 Parkland in Hopewell Township

Parks and Recreation

There are currently three parks in Hopewell Township, two of which border the City of Bridgeton boundary – Mary Elmer Lake and Piney Point. Both parks are located partially in the City of Bridgeton and are entirely managed and operated by the City. They also have pavilions for picnicking and Mary Elmer

Lake is a state-stocked fishing lake. The third park is Bostwick Lake Park, which is located primarily in Upper Deerfield Township. Bostwick Lake was a state-stocked fishing lake, but has since been drained. The park still offers camping and picnicking facilities.

Township recreational facilities are located at the West Cumberland Little League ballfields on Greenwich Road. This site includes seven ball fields of varying sizes and physical conditions. Some of the ball fields have lights with public stands and dug-outs. Recreational facilities are also available at Hopewell Crest School during non-school hours.<sup>64</sup>

<i>Table 7. Hopewell Township - Active Parks and Open Space</i>	
1. Bostwick Lake - Hopewell/Upper Deerfield/Alloway Townships Friesburg Road Campground, picnicking, formerly a state-stocked fishing lake	
2. Mary Elmer Lake - Hopewell/City of Bridgeton Mary Elmer Drive 3 pavilions, 2 BBQ grills, 2 horseshoe pits, and a state-stocked fishing lake.	
3. Piney Point Park – Hopewell/City of Bridgeton Beebe Run Road 3 picnic pavilions, with a single comfort station - electricity is available.	
4. West Cumberland County Little League – Hopewell Township Greenwich Road	
5. Hopewell Crest School – Hopewell Township Sewell Road	

<sup>63</sup> Kurt Gellerman, NJ Green Acres Program, Funding and Acquisitions Department, telephone interview June 21, 2006.

<sup>64</sup> Hopewell Township Draft Land Use Plan Element

**12.0 CRITICAL ENVIRONMENTAL AREAS**

Critical environmental sites and issues which have been identified in this inventory are summarized below:

**12.1 Favorable Development Potential**

75% of the Township is farmed or forested. While this statistic appears a community benefit, it is also a potential environmental threat due to the favorable development potential of these lands. Hopewell's soils are excellent for building and development as very few of the soils are limiting for septic effluent with non critical depth to seasonal high water table. **In fact, soils in Hopewell are actually mined and transported to other locations for septic field construction.**

**12.2 The Cohanse River**

Hopewell Township is defined by the Cohanse River which bounds the township completely on two sides of its triangular form. The river and its associated wetlands provide important wildlife habitat, mitigation of flood waters, and recreational opportunities. One of the largest and most stable nesting populations of Bald Eagles is located along the Cohanse River wetland/upland interface in Hopewell.

Approximately 12% of Hopewell Township is classified as wetlands most of which are associated with the Cohanse River, its tributaries, and the tidal estuary of the Delaware River. These wetlands create important habitat for birds, fish and wildlife. In addition, there is high recreational value to the community and the region through fishing, crabbing, boating and bird watching. The flood prone areas of Hopewell Township are generally associated with the Cohanse River and its associated tributaries. The Cohanse River, which bounds Hopewell Township, is famous for **anadromous fish** runs and oyster beds at the mouth of the river. Recreational fishing, crabbing and shell fishing are a growing economic engine for the area with fishermen spending an average of \$62-\$100 a day.

**12.3 Aquifers**

The USEPA has recommended the Coastal Plain Aquifer system, upon which Hopewell completely relies for drinking water supply, be designated as a sole source aquifer. The Safe Drinking Water Act (SDWA), Public Law 93-523, of December 16, 1974, contains a provision in Section 1424(e), which states that if the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create significant hazard to public health, he shall publish notice of that determination in the Federal Register. This designation will provide additional review of groundwater protection for projects requesting federal funding.

**12.4 Contaminated Water**

Water testing laboratories and treatment services commonly find contaminant levels high for gross alpha, excessive iron, and nitrates in Hopewell. The state limit for nitrates in drinking water is 10mg/L. Typically Hopewell wells will test at 8-9.5 mg/l although the level tends to fluctuate with the season, higher in summer and lower in winter.

Author: KAS Subject: Highlight Date: 1/16/24, 6:02:23 PM  
Check Hopewell Twp. ordinances regarding excavating, digging or mining of topsoil, sand or gravel for commercial purposes in the Township of Hopewell: <https://ecode360.com/34440982#34440982>

Author: KAS Subject: Highlight Date: 11/20/23, 11:26:02 AM  
There is fish ladder on the dam at Sunset Lake in Bridgeton to allow river herring passage to spawning habitat above the dam

Author: KAS Subject: Sticky Note Date: 11/20/23, 11:23:58 AM  
See update to Section 6.0 regarding recent well water testing in Hopewell Township

**12.5 Burden Hill Forest**

A small finger of the 15,000 acre Burden Hill Forest Complex extends into Hopewell Township. This important upland forest has been added to the area targeted for preservation through the New Jersey Conservation Foundation. The ridge vegetation consists of pineland, forested headwaters and native vegetation of the coastal plain. The largest threat to mature woodlands and interconnected forest habitat is residential development.

**12.6 Bald Eagles and other T&E Species**

The largest active Bald Eagle nesting area in New Jersey is located in Hopewell Township and Bared owls share the forested wetlands with the Cooper's Hawk and Cope's Gray Treefrogs. Computer generated mapping of critical habitats for threatened and endangered species is divided into 5 geographic regions. Each region has specific mapping of habitat patches which do not correspond to political boundaries but instead to habitat niches. A habitat ranking system ranging from 1-5, five the most important, describes actual sightings, probable locations, or suitable habitat, for threatened and endangered species to occur. Most of Hopewell Township has been designated as 3,4,5 habitat.

**12.7 Contaminated Sites**

Five superfund sites impacting the Cohansey Aquifer in Cumberland County have been identified. All are located in the City of Vineland. One active contaminated site in Hopewell Township has been registered by the NJDEP, ID# 001824. Durham's Auto Repairs had a gasoline discharge from an underground storage tank. A new well is required and soil contamination remediation is necessary.

Author: KAS Subject: Sticky Note Date: 11/20/23, 11:30:35 AM  
See the Hopewell Township Open Space and Recreation Plan (<http://hopewelltp-nj.com/DocumentCenter/View/485/OSRP-in-Full-PDF>) for further information on areas targeted for preservation/protection

Author: KAS Subject: Highlight Date: 11/20/23, 11:35:27 AM  
Check NJDEP website for list of currently active contaminated sites; this particular site is no longer listed as active