



Section 3: County Profile

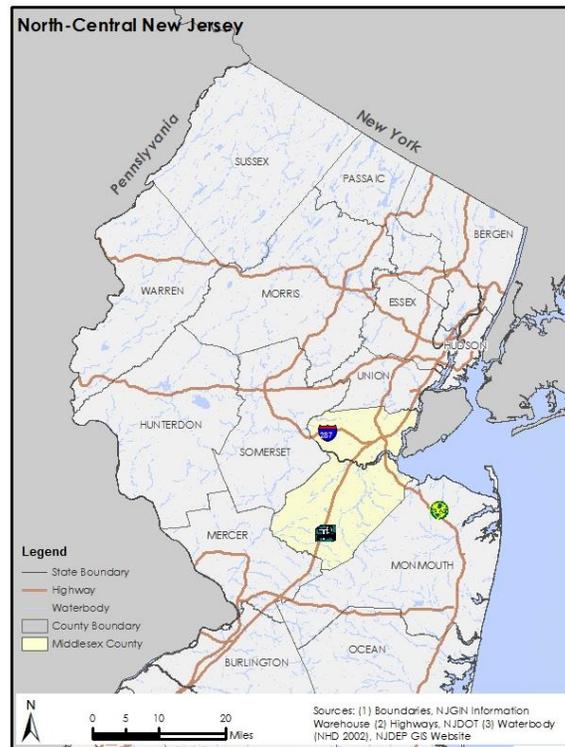
2016 Plan Update changes: This section has been updated with information regarding the county's physical setting, demographic trends, land use, and development trends.

The recommendations in the Middlesex County HMP update are based in large part on identification of past and potential property losses and risk to life and safety due to natural and man-made hazards. As part of the process of identifying potential problems, it is useful to understand the physical characteristics of the County. The following subsections (Section 3.1-3.3) provide the geography, climate, and population characteristics for Middlesex County.

3.1 Physical Location

Middlesex County is located in the center of New Jersey and is bisected by the Raritan River. Middlesex County falls between Union County to the north, Monmouth County to the southeast, Mercer County to the southwest, Somerset County to the northwest and Richmond County, NY to the northeast. Figure 3-1 shows a map of North-Central New Jersey with Middlesex County highlighted. Figure 3-2 shows the municipal boundaries within the County.

Figure 3-1: Map of North-Central New Jersey



The county is topographically consistent with other central New Jersey counties. Middlesex County is mostly flat, with the highest point approximately 300 feet above sea level. The county is 318 square miles in size, has 25 municipalities and includes extensive industrial, office, and residential areas. As one of the fastest growing counties in New Jersey, Middlesex County also operates 18 county parks and 13 Conservation Areas and Preserves.¹ The County has preserved close to 5,000 acres of active farmland.²

Major roadways that traverse Middlesex County include the New Jersey Turnpike (NJT), Garden State Parkway (GSP), Interstate 287, U.S. Routes 1, 9, 130; and State Route 18. In addition, NJ Transit buses and trains and Amtrak trains all serve as modes of passenger transportation in Middlesex County.

Middlesex County is home to several freight rail corridors, such as Chemical Coast line, which traverses the county south-north and the Perth Amboy Running track, which is an east-west corridor. Most freight rail lines in Middlesex County are operated by Conrail Shared Assets Operations (CSAO).³

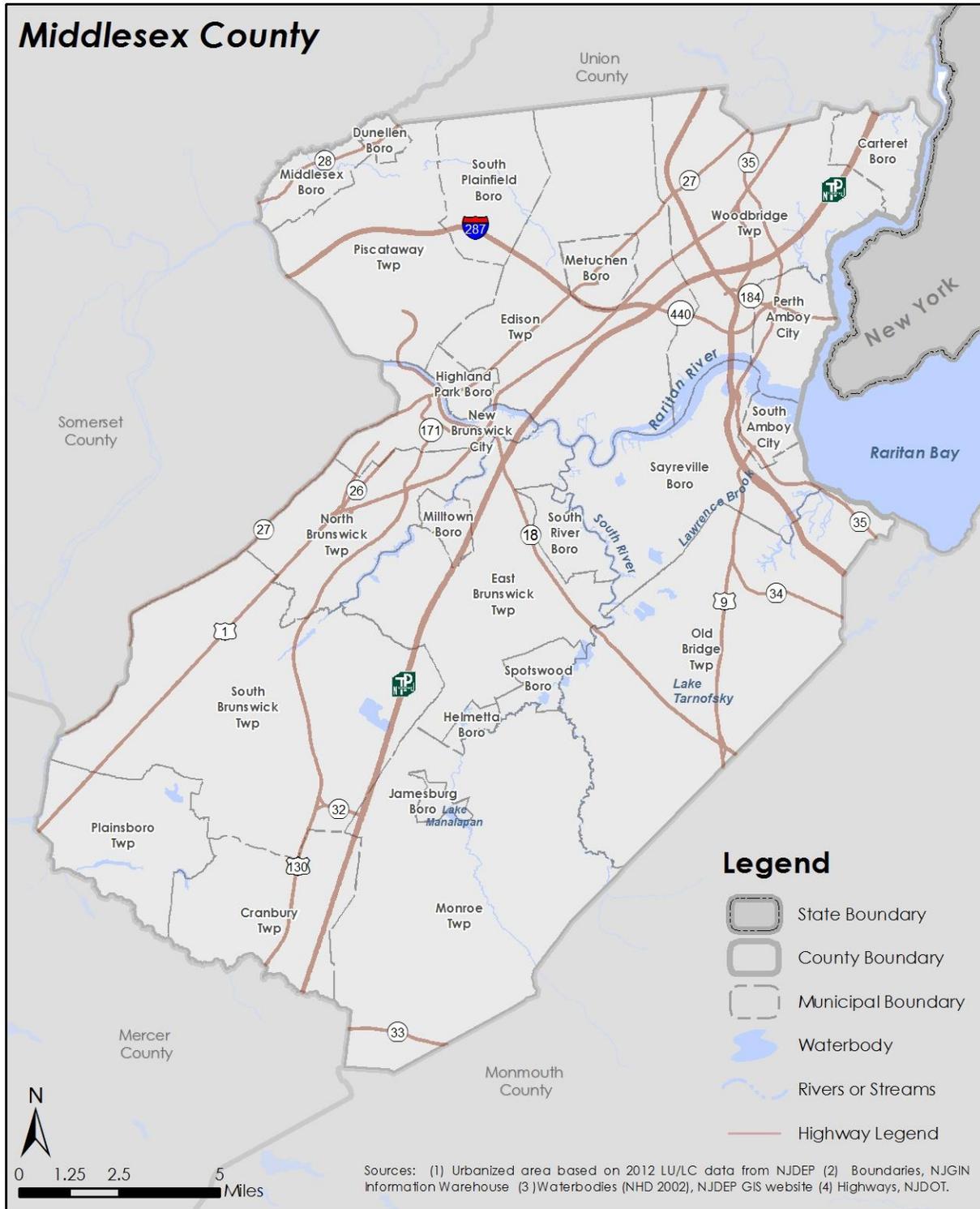
¹ "About Middlesex County." [Middlesex County](http://www.co.middlesex.nj.us/profile.asp). Middlesex County. 20 May 2008 <<http://www.co.middlesex.nj.us/profile.asp>>.

² NJ Farmland Preservation Program Summary of Preserved Farmland. March 6, 2015

³ <http://www.state.nj.us/transportation/gis/maps/railroads.pdf>



Figure 3-2
Middlesex County and Municipalities





3.2 Climate

Middlesex County enjoys an average high around 85.6°F in the month of July and an average low of 22°F in the month of January.⁴ The average monthly temperature is rarely below zero or above 100 F. Precipitation is evenly distributed through the year. Middlesex County receives on average 48.93 inches of precipitation a year.⁵ Spring and summer frontal storm systems can produce high rainfall amounts and spawn tornadoes. Tropical storm systems can affect the northern Atlantic seaboard from late summer to late fall.

3.3 Population and Demographics

The population of Middlesex County has continued to grow in recent years. According to the United States Census Bureau, the County’s population has grown approximately 24 percent in the past 24 years. The tables below detail the population characteristics and demographics for the County. Detailed information about the population of each participating municipality is included in Section 2 of Appendices 1-25. There are a total of 25 incorporated municipalities within Middlesex County, which range in population from Helmetta Borough, with 2,178 residents to Edison Township, with 99,967 residents in 2010. Table 3-1 shows the estimated population in Middlesex County from 1990 to 2014. Table 3-2 provides the population totals for all Middlesex County municipalities.

Table 3-1
United States Census – Middlesex County, New Jersey Population
(Source: U.S. Census Bureau: American Fact Finder)

	1990	2000	2006	2010	2014
Population	671,780	750,162	786,971	809,858	836,297

⁴ “Monthly Station Normals.” Accessed November 9, http://climate.rutgers.edu/stateclim_v1/norms/monthly/index.html.

⁵ Ibid.



Table 3-2
United States Census – Middlesex County, New Jersey Population
(Source: U.S. Census Bureau: American Fact Finder)

	1990	2010	% Change
Carteret	19,025	22,844	20.07%
Cranbury	2,500	3,857	54.28%
Dunellen	6,528	7,227	10.71%
East Brunswick	43,548	47,512	9.10%
Edison	88,680	99,967	12.73%
Helmetta	1,211	2,178	79.85%
Highland Park	13,279	13,982	5.29%
Jamesburg	5,294	5,915	11.73%
Metuchen	12,804	13,574	6.01%
Middlesex	13,055	13,635	4.44%
Milltown	6,968	6,893	-1.08%
Monroe	22,255	39,132	75.83%
New Brunswick	41,711	55,181	32.29%
North Brunswick	31,287	40,742	30.22%
Old Bridge	56,475	65,375	15.76%
Perth Amboy	41,967	50,814	21.08%
Piscataway	47,089	56,044	19.02%
Plainsboro	14,213	22,999	61.82%
Sayreville	34,986	42,704	22.06%
South Amboy	7,863	8,631	9.77%
South Brunswick	25,792	43,417	68.34%
South Plainfield	20,489	23,385	14.13%
South River	13,692	16,008	16.91%
Spotswood	7,983	8,257	3.43%
Woodbridge	93,086	99,585	6.98%

In comparison with New Jersey, the population of Middlesex County is very representative of the State. There is a strong racial diversity within the County. Whites make up a smaller majority in the County, with a greater percentage of individuals who identify as Asian, Hispanic, or other races. This may be significant for the County in their public outreach and education efforts. Tables 3-3 through Table 3-6 illustrate demographic and population statistics from the U.S. Census Bureau for the County.



Table 3-3
Middlesex County - Breakdown of Population Statistics for the Year 2010
(Source: 2010 U.S. Census, American Fact Finder)

General Characteristics	Middlesex County Estimate	Middlesex County Percent	New Jersey Percent
Total population	809,858		--
Male	397,485	49.1	48.7%
Female	412,373	50.1	51.3%
Median Age (years)	37.2	(X)	(X)
One race	785,941	97.0	97.3%
White	474,589	58.6	68.6%
Black or African American	78,462	9.7	13.7%
American Indian and Alaska Native	2,777	0.3	0.3
Asian	173,293	21.4	8.3%
Native Hawaiian and Other Pacific Islander	251	0.0	0.1%
Some other race	56,569	7.0	6.4%
Two or more races	23,917	3.0	2.7%
Hispanic or Latino (of any race)	148,975	18.4	17.7%

Table 3-4
Social Characteristics, 2008 - 2012
(Source: U.S. Census Bureau, 2008 - 2012 American Community Survey, 5-Year Estimate; 2009-2013 5-Year Estimate)

Social Characteristics	Middlesex County Estimate	Percent	New Jersey
Population 25 years and over	549,515	---	---
High school graduate or higher	487,969	88.8	29.2%
Bachelor's degree or higher	220,355	40.1	22.0%
Civilian Veterans (civilian population 18 years and over)	33,164	5.2	6.8%
Foreign born	252,929	31	20.8



Table 3-5
Economic Characteristics, 2008 - 2012
(Source: U.S. Census Bureau, 2008-2012 American Community Survey, 5-Year Estimate; 2009-2013 5-Year Estimate)

Economic Characteristics	Middlesex County	New Jersey
In labor force (population 16 years and over)	433,807	4,672,338
Mean travel time to work in minutes (workers 16 years +)	32.4	30.3
Median household income (2012 inflation-adjusted dollars)	79,596	\$71,637
Median family income (in 2012 inflation-adjusted dollars)	97,382	\$87,389
Per capita income (in 2012 inflation-adjusted dollars)	34,345	\$35,928

Table 3-6
County of Middlesex Household Characteristics Summary Estimates
(Source U.S. Census Bureau, 2010 Census)

Households	Quantity	Percent of Total
Total Households	281,186	100
Family Households (related)	202,954	72.2
Family Households w children under 18	96,686	34.4
Non-Family Households (unrelated)	78,232	27.8
Non-Family Households, living alone	6,418	2.3
Male over 65 years		
Non-Family Households, living alone	18,520	6.6
Female over 65 years		

3.3.1 Vulnerable Populations

Vulnerable populations include those groups that may require special assistance, considerations, accommodation or other needs during emergency events to facilitate their effective and safe compliance with emergency instructions. This includes, but is not limited to, those individuals needing mobility assistance (strollers, wheelchairs, etc.), those with financial needs (cannot afford hotel rooms, food, necessities, during evacuation periods, etc.), those requiring translation or interpretation services to understand emergency information (non-English-speaking populations, Deaf and hard of hearing), persons considered legal minors, those persons with cognitive impairments, persons with specialized medical needs (electric dependent equipment, refrigerated medications, use of Personal Assistants for routine and basic care, medical transportation needs, etc.), and populations with social disadvantages other needs that may require unique considerations during emergency events.



Table 3-7 provides estimates for select identifiable vulnerable populations in Middlesex County. Vulnerable populations may include groups or individuals not included in the designated categories below.

Table 3-7
Middlesex County Vulnerable Population Estimates (2010)
(Source U.S. Census Bureau, 2010 Census)

Population Type	Population Estimate (2010 Census)
Under 5 years of age	50,006
Under 18 years of age	185,457
Over 65 years of age	99,462
Limited English Proficiency (LEP) ⁶	128,074 (16.7% of the population over 5 years of age)
Institutionalized	8,024
Living in Group Quarters	15,811

In addition to these statistics, approximately 8.5% of the population lives below the poverty line. The mean household income is \$97,382, with the per capita income at approximately \$34,345 (2013 estimates).⁷

3.4 Land Use and Development Trends

Middlesex County is a suburban county with a mixture of land uses and development types. The County has a strong transportation network of both rail and roadways that provides easy access to surrounding metro areas. Additionally, the eastern boundary of the County opens to the Raritan Bay, which has a rich history as a significant regional port. The accessibility of the County makes Middlesex appealing for residential, industrial, and other developed uses. However, many areas of the County manage to maintain a rural character. According to the 2012 Land Use/Land Cover data from NJDEP, approximately 57 percent of the County is covered by urban land uses. Approximately 5.5 percent are used for agricultural purposes and over 12 percent remains forested. Almost 20 percent of the land is covered by wetlands.

Table 3-8
Land Cover Changes since 2002 in Middlesex County
(Source: NJDEP)

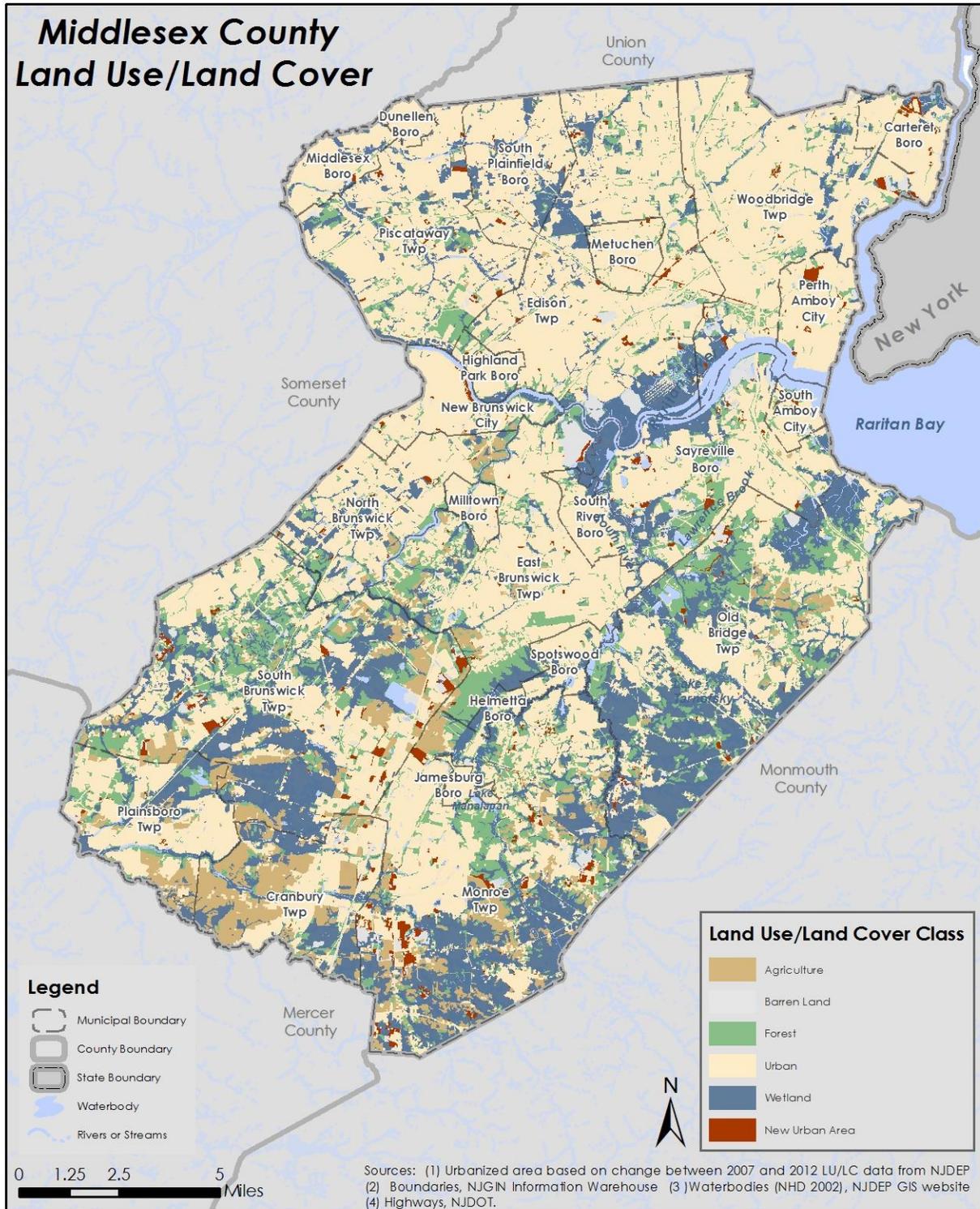
Land Cover Type	2002 (Acres)	2012 (Acres)	Percent Change
Agriculture	11,723	11,190	-4.55
Barren Land	4,093	3,490	-14.73
Forest	25,794	25,638	.6
Urban	114,757	116,430	1.46
Water	6,300	6,288	-.19
Wetlands	40,196	39,827	-.92

⁶ 2013 American Community Survey estimate, American Fact Finder “Middlesex County, NJ”. <http://factfinder.census.gov/>. Retrieved 10/27/15.

⁷ U.S. Bureau of the Census. American Fact Finder “Middlesex County, NJ”. <http://factfinder.census.gov/>. Retrieved 10/27/15.



Figure 3-3
Middlesex County Land Use/Land Cover Map
(Source: NJDEP)





The land use within the County has remained relatively consistent in the past 5-10 years. According to the land cover classification data seen in Table 3-8 created by NJDEP, Middlesex County has increased its urban footprint by less than 2,000 acres or 1.46%. Much of the development that communities have seen in the past 5-10 years is isolated infill projects or redevelopment projects. There several towns that are actively redeveloping large areas of the community including waterfronts along the Raritan River and Raritan Bay. The largest loss of land area in any class was Barren Land, which was mostly converted to residential land uses. Local and state protections ensure that this type of development does not increase flood, wind, or earthquake risk to existing or new property owners. Details about the land developments for each community are included in each municipal appendix.

The dominant land use within the County is residential homes. The American Community Survey estimated in 2013 that there are 296,281 housing units within the County, 94.8 percent of which are occupied. This is second highest in the State for occupied housing units, Bergen County has 94.9 percent. This means that for the houses at risk from damage to natural hazards, these are not second homes or abandoned properties. Nearly 34 percent of these homes are renter-occupied. Just over 14 percent of County residents have moved into their residence after 2010, which means they likely did not experience Hurricane Irene or Sandy at that property.

According to this survey, approximately, 63.9 percent of these houses were built before 1979 (Middlesex County's initial FIRM was adopted in 1978). While it is calculated for this plan how many of these houses were built in floodprone areas, it stands to reason that the County has a number of residents that pre-date the FIRM. Many of these properties may be targeted for mitigation efforts in the future. The American Community Survey in 2013 also estimates that nearly 10 percent (9.9%) of the homes within the County rely on electricity for heating fuel, which underscores one reason why power outages and energy duplicity are so significant in the County.

3.4.1 Preserved Land

Preserved land in Middlesex County includes Municipal Park and open space areas, County park and conservation areas, State-owned open space, and preserved farmland. The total preserved land in the County is approximately 30,059 acres. The County's Parks Department manages 18 active parks, covering 2,915 acres, as well as conservation areas and preserves that encompass over 7,600 acres. In addition to providing residents with the positive benefits of park land and open space, the County has prioritized parkland within the floodprone areas of the Raritan River, Millstone River, among other areas.

In addition to parks and open space, the County has been actively working to preserve its existing farmland. The County participates in the State's Farmland Preservation program, but does not have a Farmland Preservation Plan. According to the GIS data provided by the County, there are over 5,700 acres of preserved farmland in the County. This is just over 50 percent of the total agricultural land within the County.



Table 3-8
Land Preservation in Middlesex County
(Source: Middlesex County Planning Department)

	Acres
State Parks and Open Space	3,347
County Parks and Open Space	10,544
Municipal Parks and Open Space	10,399
Preserved Farmland	5,769
Total	30,059