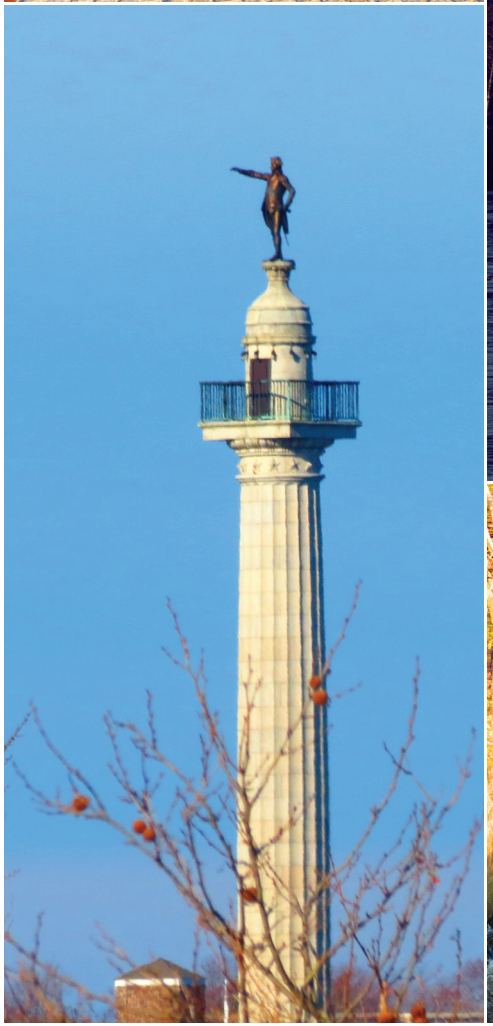
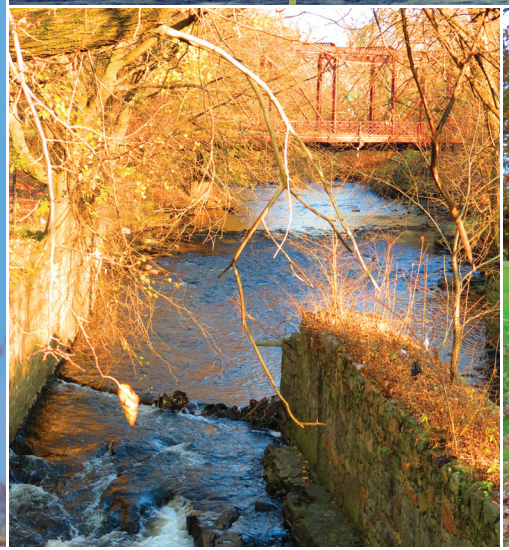


CITY OF TRENTON

Natural Resource Inventory (NRI)

AUGUST 2014



TRENTON
DIVISION *of* PLANNING

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

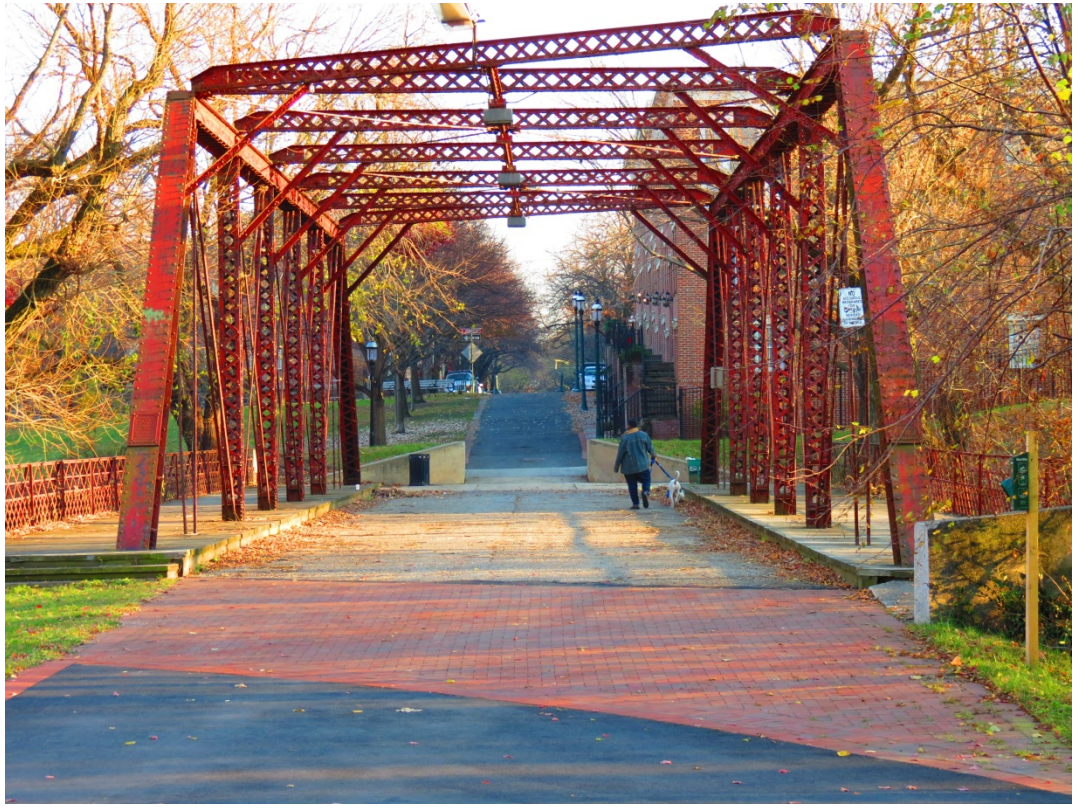
The Delaware Valley Regional Planning Commission (DVRPC) fully complies with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related nondiscrimination statutes and regulations in all programs and activities. DVRPC's website, www.dvrpc.org, may be translated into multiple languages. Publications and other public documents can be made available in alternative languages and formats, if requested. DVRPC public meetings are always held in ADA-accessible facilities and in transit-accessible locations when possible. Auxiliary services can be provided to individuals who submit a request at least seven days prior to a meeting. Requests made within seven days will be accommodated to the greatest extent possible. Any person who believes they have been aggrieved by an unlawful discriminatory practice by DVRPC under Title VI has a right to file a formal complaint. Any such complaint may be in writing and filed with DVRPC's Title VI Compliance Manager and/or the appropriate state or federal agency within 180 days of the alleged discriminatory occurrence. For more information on DVRPC's Title VI program, or to obtain a Title VI Complaint Form, please call (215) 238-2871 or email public_affairs@dvrpc.org.

Acknowledgments

The *City of Trenton Natural Resource Inventory (NRI)* was funded through the Environmental Planning work program of DVRPC.

The Environmental Planning work program assists local governments in completing plans and studies that balance the significant natural resources of communities in our region with transportation and development needs. Local environmental aspects identified and addressed include land use, water quality and quantity, flooding, wildlife habitat, natural vegetation, open space, and recreation.

Special thanks go to the City of Trenton Division of Planning and the Trenton Green Team for their contributions to this document.



Mill Hill Park

Source: Trenton Division of Planning

Table of Contents

Introduction

The purpose of a Natural Resource Inventory (NRI) is to identify and describe the natural resources of a community. A community's natural resources—its soil, water, air, plants, and animals—are fundamental to its character. The protection and wise use of those resources is essential to the public health, safety, and welfare of current and future residents. The NRI provides a basis for the development of methods and steps to preserve, conserve, and utilize those resources, although it does not include specific recommendations to those ends. It is, instead, a compendium of existing information that can be found about a community's natural resources, presented in a form that is useful to a broad audience.

Mill Hill Park

Source: Trenton Division of Planning

The NRI reflects a particular moment in time and should be updated as new data becomes available. The NRI is an important tool for environmental commissions, open space committees, planning boards, and zoning boards of adjustment. Completing an NRI is often the first task undertaken by an environmental commission. Environmental commissions advise local governments on environmental problems and opportunities in their communities. The City of Trenton does not currently have an environmental commission, although an ordinance to establish one is pending at City Council. New Jersey Planning Boards are strongly encouraged to adopt the NRI as part of the municipal master plan, either as an appendix or as part of a master plan conservation element. As part of the master plan, the NRI can provide the foundation and documentation for the development of resource protection ordinances and resource-based land use planning. This NRI was prepared at the request of the City of Trenton Division of Planning and the Green Team.

Even as a densely developed city, Trenton is tied to its natural resources. Situated at the convergence of the Assunpink Creek and the Delaware River and straddling the dividing line between the Piedmont Plateau and Atlantic Coastal Plain, Trenton has a rich diversity of landscapes and resources. Natural areas in the city include the uninhabited wooded islands in the Delaware, the 100-acre Cadwalader Park, the nationally significant Abbott Marshlands, and the waterways of the Delaware River, Assunpink Creek, and Delaware & Raritan Canal. However, the city also faces environmental challenges, including water quality impairments, flood-prone areas, known contaminated sites, air pollution facilities, and lead exposure. This NRI documents these issues and more in an effort to raise awareness and educate the residents and officials of the City of Trenton.

Overview

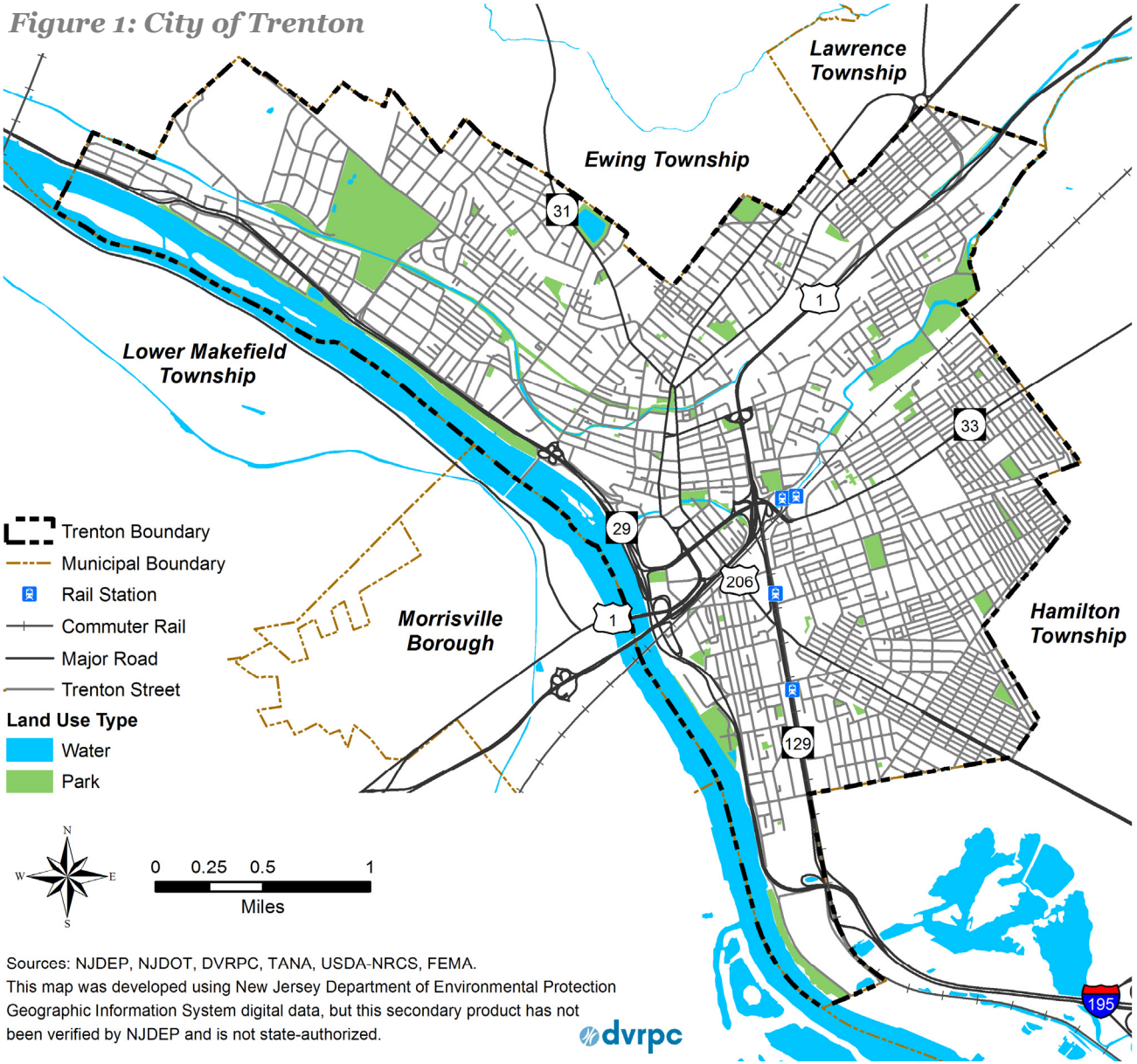
The City of Trenton is the capitol of New Jersey and the county seat of Mercer County. Located along the banks of the Delaware River, Trenton is bordered by the Mercer County municipalities of Ewing, Lawrence, and Hamilton Townships to the north, east, and south.

The total area of Trenton is 5,270.09 acres, or about 8.23 square miles. The boundary of the city extends to the middle of the Delaware River and includes a number of small uninhabited islands.

Several major transportation corridors pass through Trenton, including US Route 1 and the Northeast Corridor railroad.

The population of Trenton is 84,913 according to the 2010 U.S. Census. The median household income is $37,219, and the poverty rate is 25.6%.

Figure 1: City of Trenton



Sources: NJDEP, NJDOT, DVRPC, TANA, USDA-NRCS, FEMA.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

dvrpc

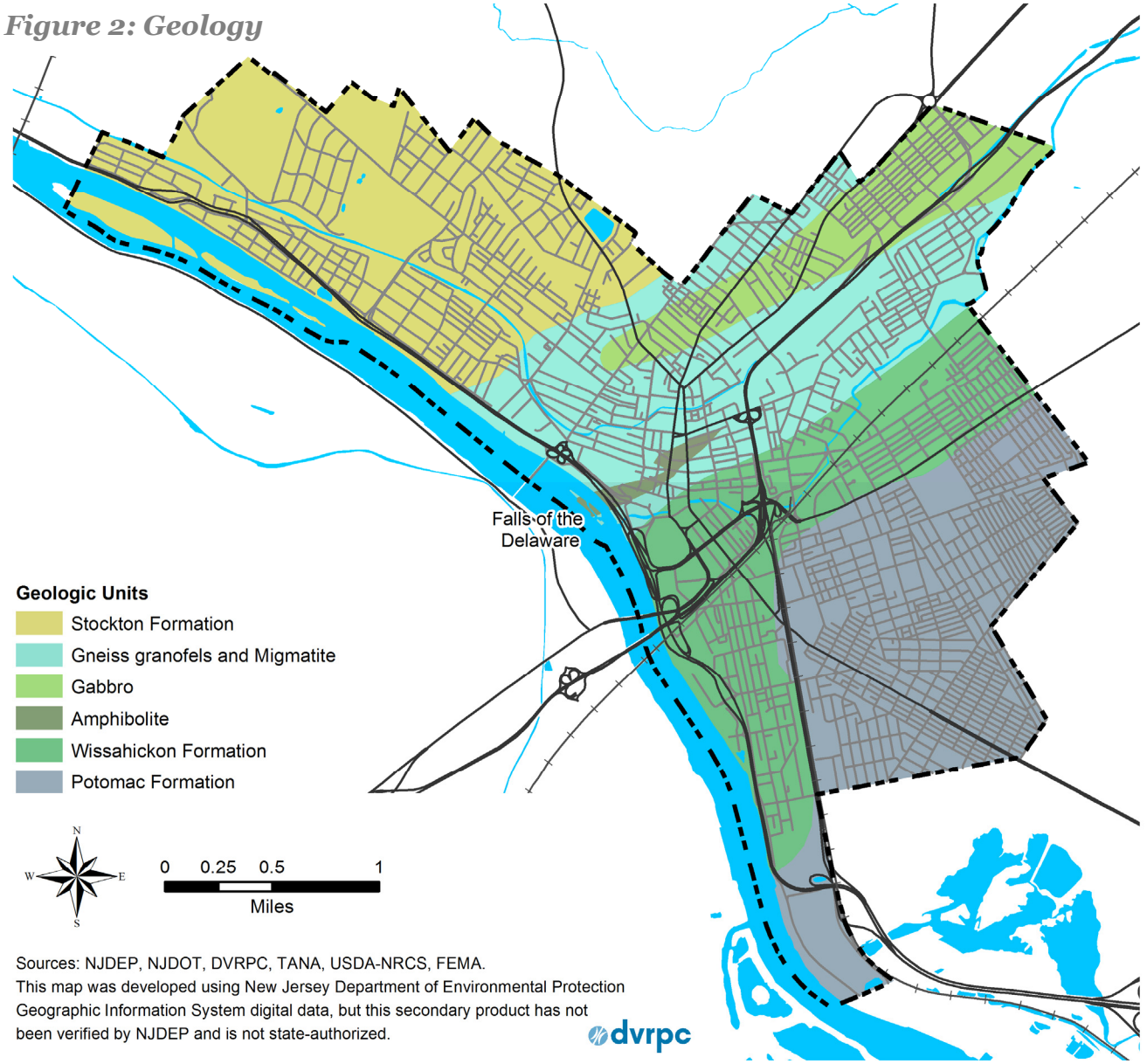
Geology

Prior to European settlement, the land that would become the City of Trenton was once home to the Sanhican, a branch of the Delaware tribe who called the area Assunpink. Sanhican means “stone in the water,” a reference to the rocky outcroppings in the Delaware River seen from Trenton. This area, known as the Falls of the Delaware, marks the geologic dividing line between the rocky Piedmont Plateau and the sandy Coastal Plain. This important geological phenomenon aligns with a change in elevation and marks the uppermost limit of the tidal portion of the Delaware River.

The Atlantic Coastal Plain, divided into Inner and Outer sections, has relatively flat topography and consists of unconsolidated sands, silts, and clays. The Piedmont Plateau is characterized by low, rolling hills and consists of a complex variety of rock formations.

As seen in **Figure 2: Geology**, the underlying geology of Trenton is divided into three main elements: the Stockton sandstone formation, the Potomac clay formation, and multiple layers of ancient igneous and metamorphic rocks in between. The

Figure 2: Geology



Potomac formation is the upper limit of the Inner Coastal Plain, and all other geologic units in Trenton are located in the Piedmont Plateau.

Table 1: Geologic Units

Geologic Name	Abbreviation	Physiographic Region	Lithology	Geologic Age
Stockton Formation	Trs	Piedmont Plateau	Sandstone, mudstone, silty mudstone, argillaceous siltstone, and shale	Upper Triassic
Gneiss granofels and Migmatite	Yg	Piedmont Plateau	Heterogeneous felsic, intermediate and mafic rocks, graphitic schist, and minor marble	Middle Proterozoic
Gabbro	Ygb	Piedmont Plateau	Gabbro, medium- to coarse-grained	Middle Proterozoic
Amphibolite	Ya	Piedmont Plateau	Amphibolite, fine- to medium-grained	Middle Proterozoic
Wissahickon Formation	CZw	Piedmont Plateau	Schist and gneiss, medium- to coarse-grained	Lower Cambrian and Late Proterozoic
Potomac Formation	Kp	Inner Coastal Plain	Sand, fine- to coarse-grained, interbedded with white, red, or yellow clay	Upper Cretaceous, lower Cenomanian

Source: NJGS, 2009

Soils

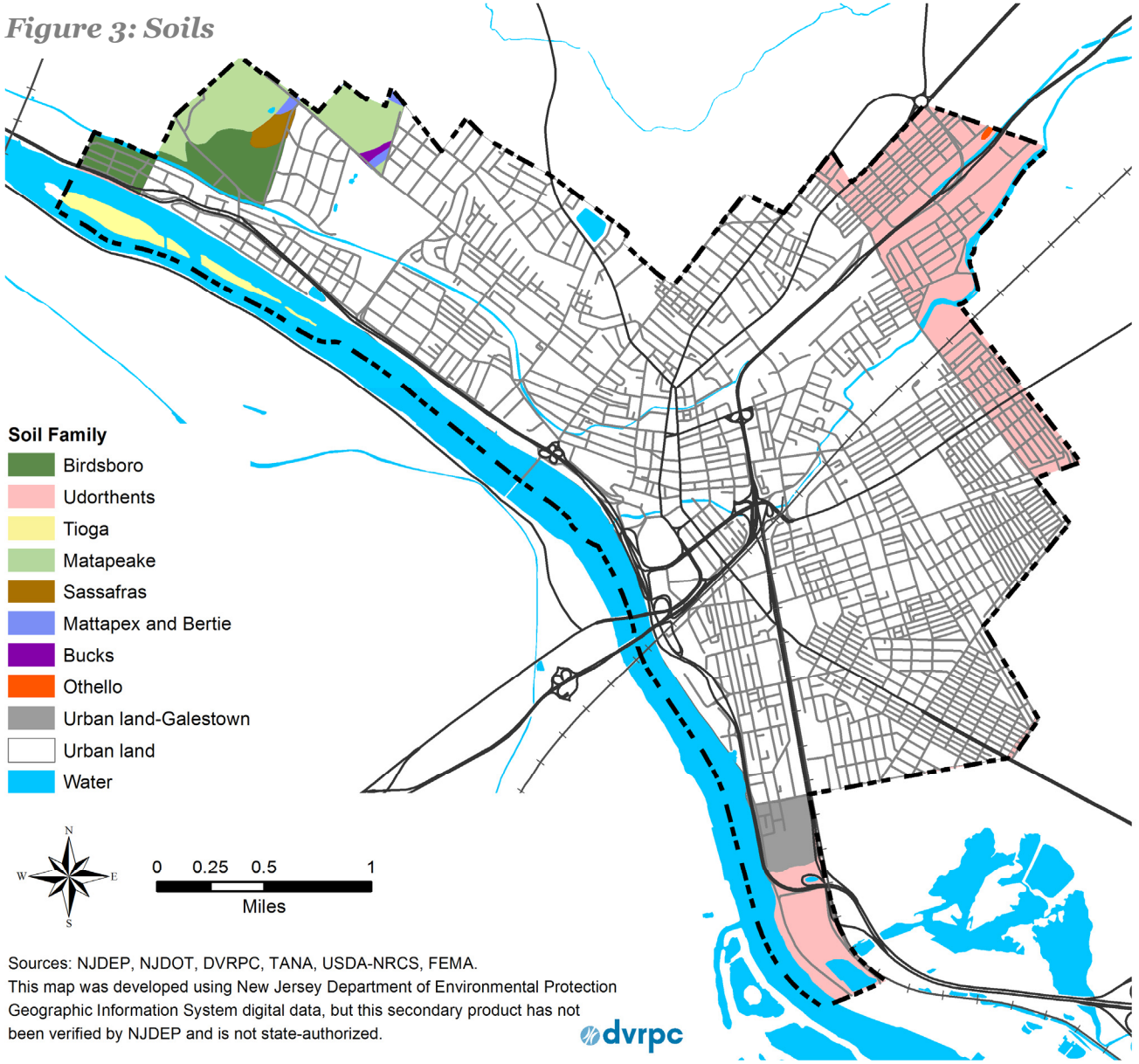
Soil is the foundation for all land uses. Soil types vary in their physical, chemical, and biological properties, influencing the vegetation and development potential of a region.

Data on soil types derives from surveys conducted by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). The Mercer County Rutgers Cooperative Extension Office conducts soil testing for the county. Testing kits are available for purchase, which analyze the fertility level, pH, and other soil properties.

Most soils in Trenton are classified as urban land, consisting of land that was cut and filled for development and has lost the properties of its original soil horizon. The soils in portions of eastern and southern Trenton are classified as Udorthents, which are soils formed by dredged fill material. The westernmost areas of Trenton maintain their soil profiles, which include a variety of sandy and loam soils.

The table below lists and describes the soils found in Trenton. The acreage of the city not accounted for in the soils table is occupied by water. The Land

Figure 3: Soils



Sources: NJDEP, NJDOT, DVRPC, TANA, USDA-NRCS, FEMA.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

dvrpc

Capability Class was developed by the USDA to determine the best use of lands by classifying and mapping erosion rates and potential in relation to both physical characteristics and agricultural capacity.

Table 2: Soils

Soil Family	Parent Material	Soil Name	Code	Land Capability Class*	Acres
Birdsboro	Old alluvium derived from sandstone and siltstone and/or shale	Birdsboro gravelly solum variant soils, 0 to 6 percent slopes	BHSGB	2e	43.53
		Birdsboro sandy subsoil variant soils, 2 to 6 percent slopes	BHRSB	2e	61.43
		Birdsboro sandy subsoil variant soils, 6 to 12 percent slopes	BHRSC	3e	0.45
Bucks	Silty noncalcareous loess over residuum weathered from sandstone and shale	Bucks silt loam, 6 to 12 percent slopes, eroded	BucC2	3e	3.72
Matapeake	Silty eolian deposits over marine deposits and/or coarse fluviomarine deposits	Matapeake loam, 0 to 2 percent slopes	MbpA	1	0.16
		Matapeake loam, 2 to 5 percent slopes	MbpB	2e	102.82
		Matapeake loam, 5 to 10 percent slopes, eroded	MbpC2	3e	37.01
Mattapex and Bertie	Silty eolian deposits over marine deposits and/or coarse fluviomarine deposits; loamy marine deposits	Mattapex and Bertie loams, 0 to 5 percent slopes	MBYB	2e/2w	8.13
Othello	Silty eolian deposits over coarse alluvium and/or coarse eolian deposits and/or coarse marine deposits	Othello silt loam, 0 to 2 percent slopes	OthA	3w	1.23
Sassafras	Loamy and/or gravelly fluviomarine deposits	Sassafras gravelly sandy loam, 2 to 5 percent slopes	SadB	2e	14.08
Tioga	Old coarse-loamy alluvium	Tioga fine sandy loam, 0 to 2 percent slopes, occasionally flooded	ThoAs	1	42.70
Udorthents	Sandy dredge spoils	Udorthents, dredged coarse materials, 0 to 8 percent slopes	UddcB	3w	98.38
	Loamy lateral spread deposits over gravelly	Udorthents, gravelly substratum, 0 to 8 percent slopes	UdgB	3w	258.80

Soil Family	Parent Material	Soil Name	Code	Land Capability Class*	Acres
	lateral spread deposits	Udorthents, stratified substratum, 0 to 8 percent slopes	UdstB	3w	194.42
Urban Land	Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material	Urban land	UR	8s	3,934.09
Urban Land-Galestown	Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material; Sandy eolian deposits and/or fluviomarine deposits	Urban land-Galestown complex, 0 to 5 percent slopes	USGALB	8s/7s	56.14
Total					**4,857.08**

Source: NRCS, 2008

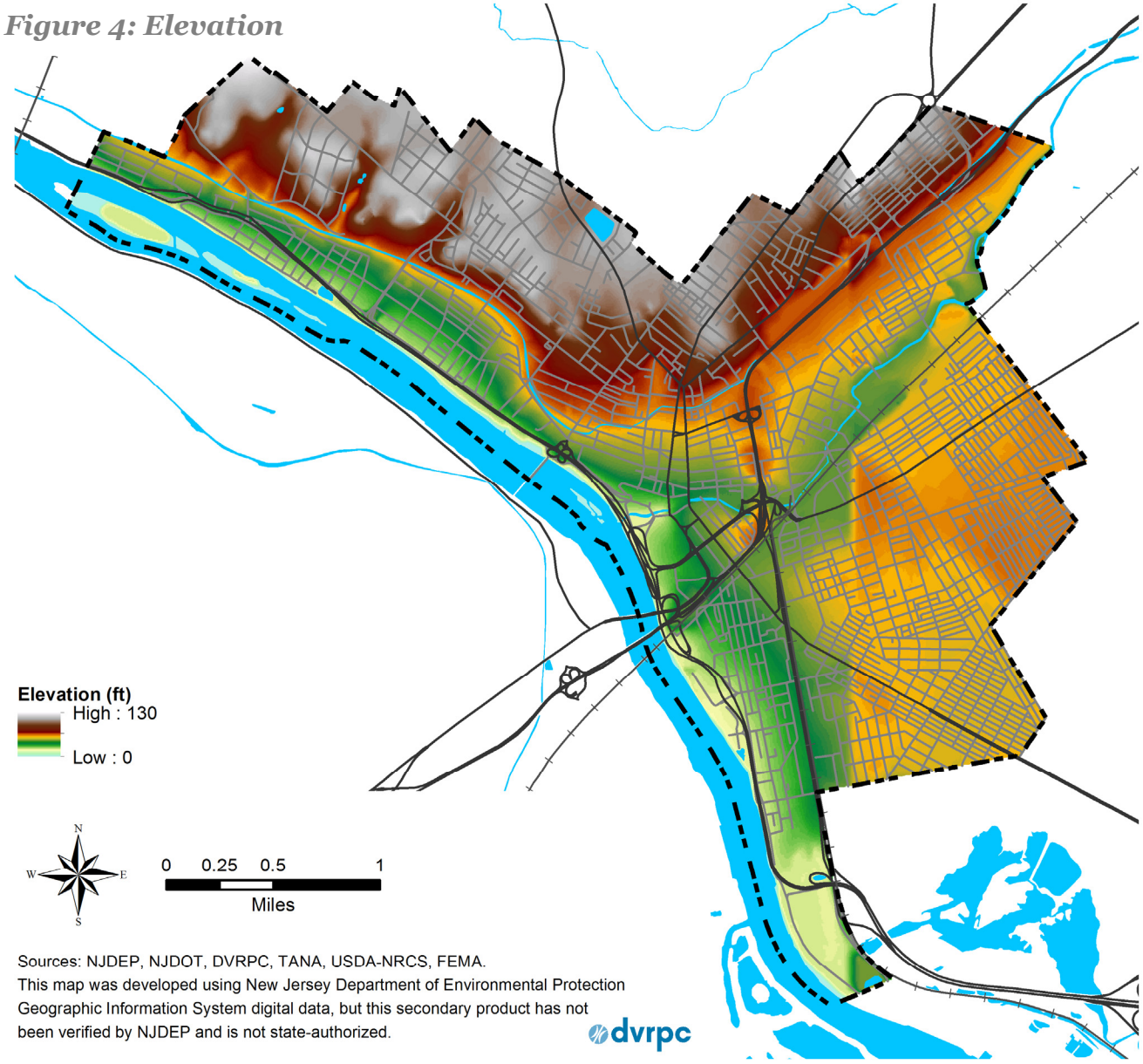
*Capability Class	Definition
1	Slight limitations that restrict their use.
2	Moderate limitations that restrict the choice of plants or that require moderate conservation practices.
3	Severe limitations that restrict the choice of plants or that require special conservation practices, or both.
4	Very severe limitations that restrict the choice of plants or that require very careful management, or both.
5	Subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
6	Severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
7	Very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.
8	Limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.
***Capability Subclasses**	**Definition**
e	The main hazard is the risk of erosion unless close-growing plant cover is maintained
w	Water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage)
s	Soil is limited mainly because it is shallow, droughty, or stony
c	Chief limitation is climate that is very cold or very dry

Topography

Topography relates to the surface terrain and features of an area. Trenton's location straddling the fall line separating the Piedmont Plateau and the Atlantic Coastal Plain is reflected in the city's topography.

The land to the north of the Delaware and Raritan Canal is higher in elevation than areas to the south. The highest elevations in the city are found in the northwestern part of the city on the grounds of the Trenton Psychiatric Hospital and in the Hilltonia neighborhood, with elevations exceeding 120 feet above sea level. The lowest elevations are along the stream beds and southernmost area of the city, which are at or below sea level.

Figure 4: Elevation



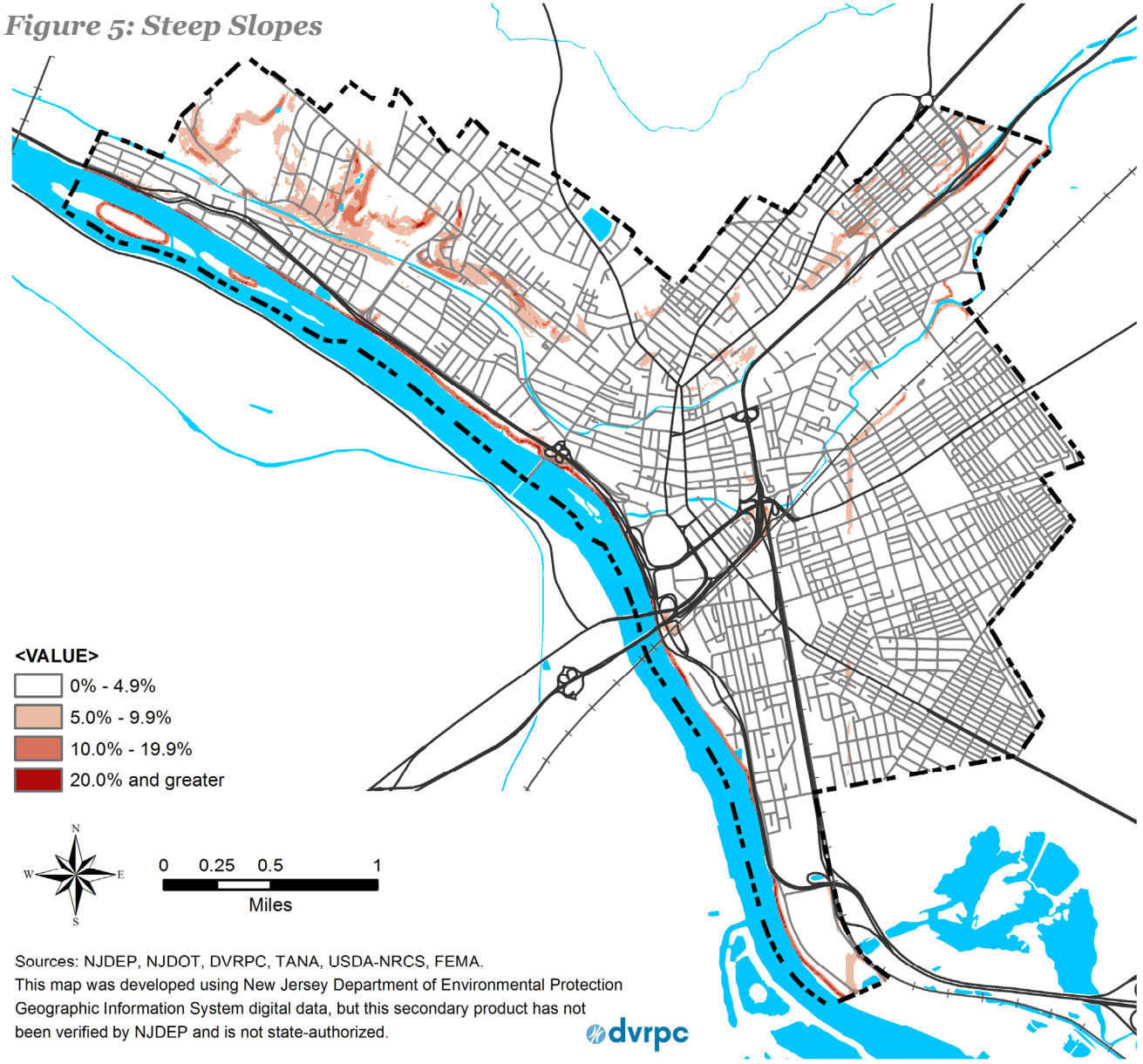
Steep Slopes

Slope is a measure of the rise and fall of the land surface. Slope is expressed as the percent of vertical distance, or difference in height, between two points divided by the horizontal distance between these two points.

Steep slopes are generally considered those about 20 percent grade. In general, development of areas with steep slopes is inadvisable as it is likely to result in property damage, soil instability, erosion, sedimentation of streams, and increased stormwater runoff and flooding. Erosion on steep slopes is especially prevalent where excessive tree removal has taken place.

The majority of Trenton is relatively flat, with slopes of less than five percent. A band of steep slopes, or bluffs, is located along the Delaware River waterfront. Another area of steep slopes is a wooded area between Enterprise Avenue and Route 1, as well as on the banks of the Assunpink Creek.

Figure 5: Steep Slopes

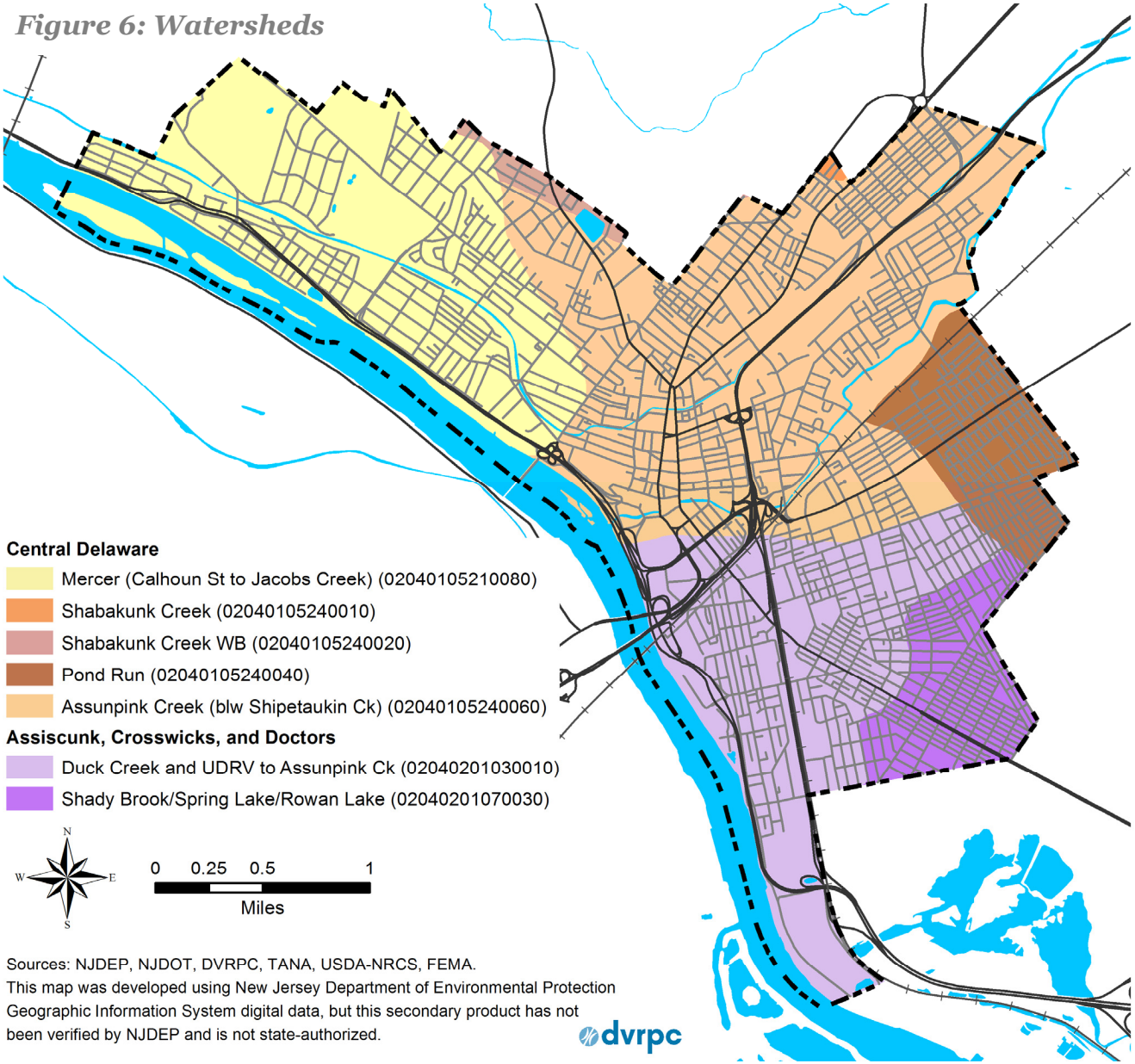


Watersheds

A watershed is the land that drains to a particular waterway, such as a river, stream, lake, or wetland. The high points in the terrain, such as hills and ridges, define the boundaries of a watershed. Each watershed corresponds to a hydrological unit code, or HUC, as delineated by the United States Geological Survey (USGS). The USGS has set up a nested hierarchy of watersheds of 21 regional watersheds (called "accounting units") across the nation. Accounting units are divided into smaller watersheds (also called "cataloging units"), and then into even smaller watersheds and subwatersheds. The various levels of nested watersheds are simply called HUC2, HUC8, HUC11, and HUC14 watersheds.

The City of Trenton is located in the regional Mid-Atlantic HUC2 accounting unit (02), which includes all of New Jersey. Trenton falls within two HUC8 watersheds. The north and west areas of the city are located in the Central Delaware watershed, while the southern area of the city is in the Assiscunk, Crosswicks, and Doctors watershed. These areas are further divided into smaller HUC11

Figure 6: Watersheds



Sources: NJDEP, NJDOT, DVRPC, TANA, USDA-NRCS, FEMA.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

dvrpc

watersheds and HUC14 subwatersheds as listed in the table below. All land in the city eventually drains to the Delaware River.

Watershed associations are organizations involved in protecting local water bodies, often through monitoring, cleanups, and restoration projects. The Shady Brook/Spring Lake/Rowan Lake subwatershed, which includes the Franklin Park neighborhood and portions of surrounding neighborhoods, is the only portion of Trenton that is served by a watershed association: the Crosswicks-Doctors Creek Watershed Association.

Table 3: Watersheds

HUC8 Cataloguing Unit	HUC11 Watershed	HUC14 Subwatershed	HUC14 Total Acres	HUC14 Acres in Trenton
Central Delaware (02040105)	Alexauken Ck/Moore Ck/Jacobs Ck (02040105210)	Mercer (Calhoun St to Jacobs Creek) (02040105210080)	5,414.29	1,423.56
	Assunpink Creek (below Shipetaukin Ck) (02040105240)	Shabakunk Creek (02040105240010)	5,400.59	6.46
		Shabakunk Creek WB (02040105240020)	3,078.88	49.69
		Pond Run (02040105240040)	6,404.95	353.35
		Assunpink Creek (below Shipetaukin Ck) (02040105240060)	3,051.16	1,902.50
Assiscunk, Crosswicks, and Doctors (02040201)	Duck Creek and UDRV to Assunpink Ck (02040201030)	Duck Creek and UDRV to Assunpink Ck (02040201030010)	2,123.95	1,135.85
	02040201070 Crosswicks Ck (below Doctors Creek)	Shady Brook/Spring Lake/Rowan Lake (02040201070030)	3,149.68	325.14

Source: NJDEP

Surface Water

Surface water is water that is present on the land surface, and it includes lakes, ponds, rivers, streams, bogs, wetlands, bays, and oceans.

In the City of Trenton, the most significant body of surface water is obviously the **Delaware River**, which is tidal until reaching the Falls of the Delaware south of the Route 1 bridge. The headwaters of the Delaware River are in New York's Catskills Mountains, and the river flows over 400 miles before it eventually empties into the Atlantic Ocean. The Delaware River is the longest undammed river east of the Mississippi River, and it provides habitat for an abundant variety of species.

Delaware River at the Falls of the Delaware

Source: DVRPC

Another major surface water resource is the man-made **Delaware and Raritan (D & R) Canal**, built in the 1830s to transport freight between the Delaware and Raritan Rivers. The main section of the D & R Canal flows along the Route 1 corridor within the city, and a feeder section extends north to Frenchtown. A section of the canal has been buried in a culvert under Route 1, and another section that formerly extended to Bordentown was covered with Route 129.

The third major surface water resource in Trenton is the **Assunpink Creek**, which originates north of Clarksburg, Monmouth County, and flows west before emptying into the Delaware River in Trenton. There are a number of dams along the creek, which create lakes, including Assunpink and Mercer Lake. Assunpink Creek is channelized through much of Trenton, and it is buried in a culvert beneath the interchange of Routes 1, 33, and 129. Another culverted section of the stream between Broad and Warren Streets is the subject of an Army Corps of Engineers "daylighting" project that will expose and restore the stream to natural daylight and channel conditions.

Water Quality

Surface Water

Surface water quality standards are established by federal and state governments to ensure that water is suitable for its intended use. This is done through an analysis of certain surface water quality parameters, including fecal coliform, dissolved oxygen, pH, phosphorous, toxic substances, and aquatic macroinvertebrate life. In 2006, NJDEP began reporting water quality data on a HUC14 subwatershed basis, and so the assessments of portions of rivers and streams are reported by the subwatershed within which they are located.

According to the draft NJDEP 2012 Integrated Water Quality Report, every subwatershed in Trenton is characterized as Not Supporting (NS) at least one designated use. There is Insufficient Information (II) for many designated uses.

Figure 7: Water Quality

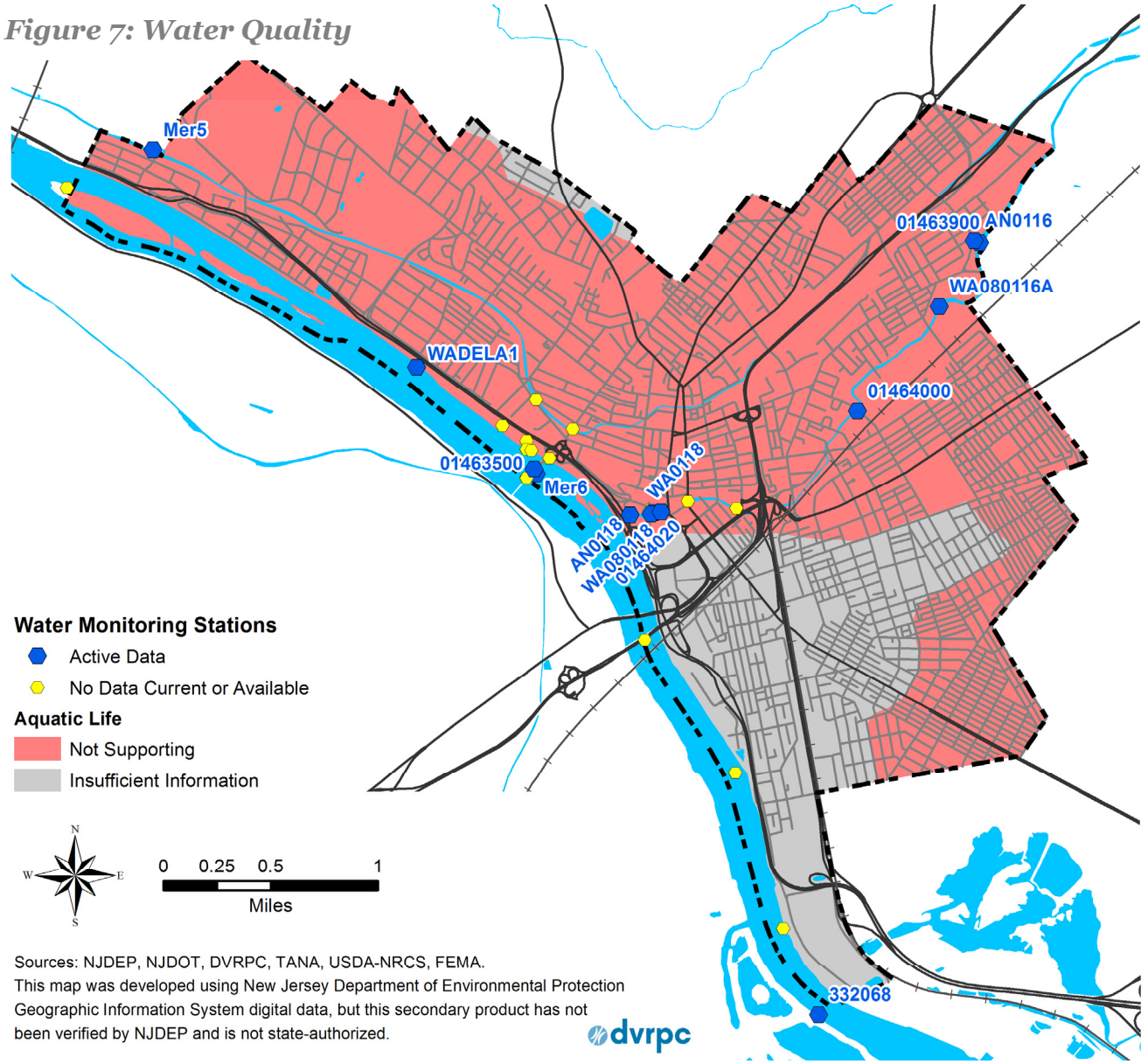


Table 4: Surface Water Quality

HUC 14 Subwatershed	Attainment of Uses NS: Not Supporting II: Insufficient Information FS: Fully Supporting						
	Agricultural Water Supply	Aquatic Life	Fish Consumption	Industrial Water Supply	Primary Contact Recreation	Public Water Supply	Water Quality Impairment Source
Mercer (Calhoun St to Jacobs Creek) (02040105210080)	II	NS: Cause Unknown	II	II	II	II	-
Shabakunk Creek (02040105240010)	II	NS: Cause Unknown; Phosphorus (Total)	NS: Mercury in Fish Tissue	II	NS: Escherichia coli	NS: Arsenic	Atmospheric Depositon - Toxics; Agriculture; Urban Runoff/Storm Sewers
Shabakunk Creek WB (02040105240020)	II	II	II	II	NS: Fecal Coliform	II	Urban Runoff/Storm Sewers
Pond Run (02040105240040)	FS	NS: Total Suspended Solids (TSS); Turbidity	II	FS	NS: Fecal Coliform	FS	Agriculture Urban Runoff/Storm Sewers
Assunpink Creek (below Shipetaukin Ck) (02040105240060)	FS	NS: Cause Unknown; Lead; Oxygen, Dissolved; pH; Phosphorus (Total)	NS: Mercury in Fish Tissue	FS	NS: Escherichia coli	NS: Arsenic; Lead	-
Duck Creek and UDRV to Assunpink Ck (02040201030010)	II	II	NS: Mercury in Fish Tissue; PCB in Fish Tissue	II	II	II	Atmospheric Depositon - Toxics; Industrial Point Source Discharge; Municipal Point Source Discharges; Urban Runoff/Storm Sewers
Shady Brook/Spring Lake/Rowan Lake (02040201070030)	II	NS: Phosphorus (Total)	NS: Mercury in Fish Tissue; PCB in Fish Tissue	II	II	II	Atmospheric Depositon - Toxics; Urban Runoff/Storm Sewers

Source: NJDEP, 2012

This water quality analysis is based on data collected at water quality monitoring stations. The NJDEP oversees the operation of the primary water quality monitoring networks for the state. Monitoring strategies employed by the Department consist of multiple water quality assessment techniques, including habitat assessments, in-stream biological monitoring, collection of physical/chemical data on a variety of matrices (surface water, ground water, sediment), identifying pollution sources in the coastal and freshwater environment, and sediment toxicity testing.

Table 5: Current Water Quality Monitoring Stations

Subwatershed	Station ID	Station Name	Organization	Current Data Collected
Mercer (Calhoun St to Jacobs Creek) (02040105210080)	Mer5	Delaware -Raritan Canal @ Trenton	NJDEP Fish Sampling Site	Toxics in Fish
	WADELA1	Delaware River, Stacy Park, Trenton	NJDEP AmeriCorps Program	Temperature; Biological; Habitat
Assunpink Creek (below Shipetaukin Ck) (02040105240060)	01463500	Delaware River at Trenton	USGS New Jersey Water Science Center	Stream Flow; Temperature; Discharge; Specific Conductance; Dissolved Oxygen; pH; Turbidity; Physical; Inorganics, Major, Metals; Inorganics, Major, Non-metals; Nutrient; Microbiological; Biological; Inorganics, Minor, Metals; Inorganics, Minor, Non-metals; Organics, pesticide; Organics, other; Radiochemical; Stable Isotopes; Sediment.
	01463900	Assunpink Ck 700' us Nottingham Way at Trenton NJ	USGS New Jersey Water Science Center	Stream Flow, Temperature, Specific conductance, Dissolved Oxygen, pH, Turbidity; Physical; Inorganics, Major, Metals; Inorganics, Major, Non-metals; Nutrient; Inorganics, Minor, Metals; Inorganics, Minor, Non-metals; Organics, other; Sediment.
	01464000	Assunpink Creek at Trenton NJ	USGS New Jersey Water Science Center	Stream Flow, Discharge
	01464020	Assunpink Ck at Peace Street, Trenton NJ	USGS New Jersey Water Science Center	Stream Flow; Physical; Inorganics, Major, Metals; Inorganics, Major, Non-metals; Nutrient; Biological; Inorganics, Minor, Metals; Organics, other.
	AN0116	Assunpink Ck Mulberry St	NJ Department of Environmental Protection	Temperature; Specific Conductance; Dissolved Oxygen; pH; Biological; Habitat

Subwatershed	Station ID	Station Name	Organization	Current Data Collected
	AN0118	Assunpink Ck Willow St	NJ Department of Environmental Protection	Temperature; Specific Conductance; Dissolved Oxygen; pH; Biological; Habitat
	Mer6	Delaware River at Trenton	NJDEP Fish Sampling Site	Toxics in Fish
	WA0118	Assunpink @ War Memorial and John Fitch Way	NJDEP AmeriCorps Program	Temperature; Biological; Habitat
	WA080116A	WA080116A	NJDEP AmeriCorps Program	Temperature; Habitat
	WA080118	WA080118	NJDEP AmeriCorps Program	Habitat
	DRBCNJ0001	Delaware River at Calhoun Street Bridge (NJ)	Delaware River Basin Commission	Physical; Inorganics, Major, Non-metals; Nutrient; Microbiological; Biological
Duck Creek and UDRV to Assunpink Ck (02040201030010)	332068	Biles Channel (RM 131.04)	Delaware River Basin Commission	Physical; Inorganics, Major, Metals; Inorganics, Major, Non-metals; Nutrient; Microbiological; Biological; Organics, Other

Source: USGS

The following table lists other water quality monitoring stations in Trenton, but which do not have current data available. Historic data for these stations could be found through the organizations responsible for each station.

Table 6: Other Water Quality Monitoring Stations

Subwatershed	Station ID	Name	Organization	Current Data Collected
Mercer (Calhoun St to Jacobs Creek) (02040105210080)	01460415	Del and Rar fdr Ca at Perdicaris Pl at Trenton NJ	USGS New Jersey Water Science Center	No Data Available
	01462845	Trenton Power Race at Perdicaris Pl	USGS New Jersey Water Science Center	No Data Available
	01463490	Delaware River Diversion	USGS New Jersey Water Science Center	No Data Available
	5700013434	Delaware R at Trenton NJ	NJ Department of Environmental Protection	No Data Available
	5700013460	Trenton Filtration Plant/Intake Pipe Delaware R.	NJ Department of Environmental Protection	No Data Available
	DRBCNJ1369	Delaware River at Rotary Island (NJ)	Delaware River Basin Commission	No Data Available
Assunpink Creek (below Shipetaukin Ck) (02040105240060)	01462850	Trenton Power Race at Calhoun St	USGS New Jersey Water Science Center	No Data Available
	8592800030	Assunpink Ck at Peace Street, Trenton NJ	NJ Department of Environmental Protection	No Data Available
	DRBCNJ1338	Assunpink Creek	Delaware River Basin Commission	No Data Available
	DRBCNJPAC01	Delaware River at Calhoun Street Bridge (composite)	Delaware River Basin Commission	No Current Data
	WA09118A	WA09118A	NJDEP Americorps Program	No Data Available
	WA09118B	WA09118B	NJDEP Americorps Program	No Data Available
	WA09118C	WA09118C	NJDEP Americorps Program	No Data Available
Duck Creek and UDRV to Assunpink Ck (02040201030010)	01464030	Delaware R at Rt 1 Bdg at Trenton NJ	USGS New Jersey Water Science Center	No Data Available
	01464040	Delaware River at Marine Terminal at Trenton NJ	USGS New Jersey Water Science Center	No Current Data
	5700013274	Delaware River at Trenton	NJ Department of Environmental Protection	No Data Available

Source: USGS, 2013

Drinking Water

Drinking water for the City of Trenton is provided by the Trenton Water Works, a municipal entity owned by the City of Trenton that also provides drinking water to parts of four surrounding municipalities. Source water is drawn from an intake on the Delaware River and then treated at a water filtration plant, which has a peak capacity of approximately 60 million gallons per day (MGD) to serve over 250,000 people in the county. In the case of an emergency affecting the water of the Delaware River, Trenton Water Works has access to purchased groundwater resources as an emergency water source.

As required by state and federal regulations, the drinking water quality of all utilities are regularly monitored for a variety of chemical and biological parameters. Monitored chemical contaminants include inorganics, radionuclides, and synthetic organic chemicals including volatile organic chemicals, pesticides, herbicides, and disinfection byproducts. Biological contaminants that are monitored include coliform and *Legionella* bacteria as well as parasites such as *Giardia* and *Cryptosporidium*. Other factors tested include turbidity (or cloudiness). Lead and copper are also tested at a sample number of household taps. Drinking water utilities are required to notify their customers if the levels of any monitored chemicals exceed the regulated standards.

Drinking water supplies are rated for their susceptibility to contamination by different parameters. This rating reflects the potential for contamination, not the existence. People with immunodeficiency may be more vulnerable to contamination in drinking water than the general population. Like all surface water sources in the state, the Trenton Water Works source water has a high susceptibility for pathogen contamination. The source water is also highly susceptible for contamination by nutrients, inorganics, and disinfection byproduct precursors. The source water has a medium susceptibility for contamination by volatile organic chemicals and, like all surface water resource, a low susceptibility for radionuclides and radon.

In 2013, the drinking water quality of Trenton Water Works met all federal and state standards. There were two violations reported for elevated concentrations of the disinfection byproduct total trihalomethanes (TTHM), although the annual average concentration met the standard. No other contaminant violations were reported between 2010 and 2012.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was passed by the U.S. Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The Act was amended in 1986 and 1996 to increase protections, monitoring requirements, enforcement, and reporting standards. Private drinking water wells, however, are exempt from the Act.

The SDWA authorizes the United States Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. In New Jersey, the NJDEP assumes responsibility for enforcing the SDWA.

The SDWA requires public water suppliers to provide their customers with an annual Consumer Confidence Report. The report provides information on the source of the water supply, the level of any regulated contaminants detected in the water, the health effects of contaminants detected above federal health-based standards, and the water system's compliance with other drinking water regulations.

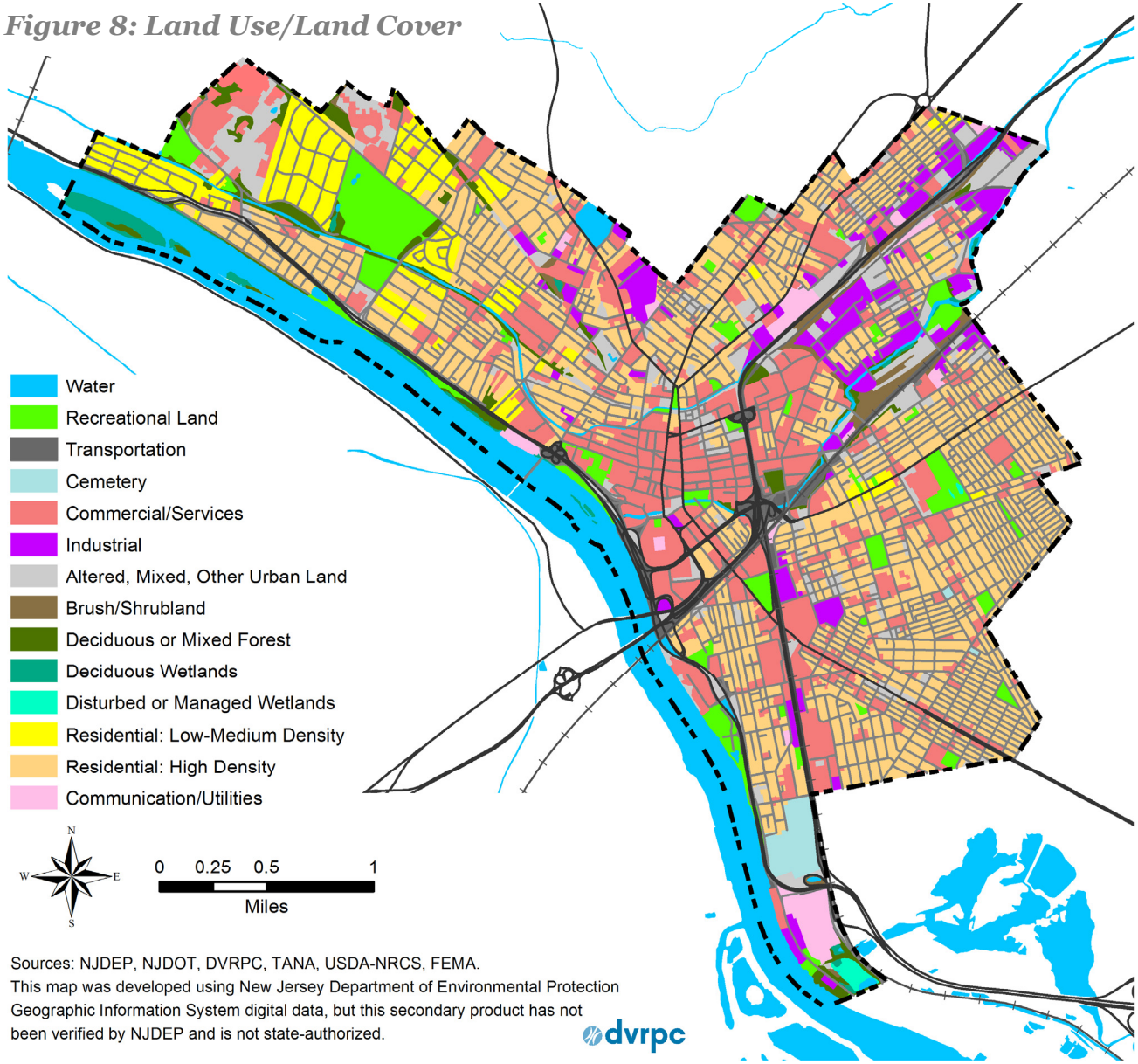
Land Use/Land Cover

Land cover is a description of the landscape on the earth's surface, such as pavement, forest, or grasslands. Land use is a description of society's use of the land, such as commercial or residential. The NJDEP analyzes the land use and land cover of the state based on aerial photography. The last completed analysis is based on aerials from 2007.

The largest land use type found in Trenton is residential, which covers over 40 percent of the city and is mostly categorized as high density. This is followed by commercial/services covering one-fifth of the city, which includes institutional and government buildings.

The following table lists the land uses in Trenton in order of size.

Figure 8: Land Use/Land Cover



Sources: NJDEP, NJDOT, DVRPC, TANA, USDA-NRCS, FEMA.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

dvrpc

Table 7: Land Use/Land Cover

Land Use	Acres (Use)	Percent (Use)	Land Use Group	Acres (Group)	Percent (Group)	Land Use Type	Acres (Type)
Residential	2,194.58	41.64%	Residential: Low-Medium Density	319.81	6.07%	Residential, Rural, Single Unit	6.11
						Residential, Single Unit, Low Density	10.33
						Residential, Single Unit, Medium Density	303.38
			Residential: High Density	1,874.76	35.57%	Residential, High Density or Multiple Dwelling	1,874.76
Commercial/ Services	1,078.54	20.47%	Commercial/Services	1,078.54	20.47%	Commercial/Services	1,078.54
Water	452.00	8.58%	Water	452.00	8.58%	Artificial Lakes	14.27
						Stormwater Basin	9.94
						Streams and Canals	272.64
						Natural Lakes	0.21
						Tidal Rivers, Inland Bays, and Other Tidal Waters	154.93
Other Urban Land	382.06	7.25%	Altered, Mixed, or Other Urban Land	382.06	7.25%	Altered Lands	21.51
						Mixed Urban or Built-Up Land	84.86
						Other Urban or Built-Up Land	269.55
						Transitional Areas	6.14
Public Open Space	331.70	6.29%	Recreational Land	286.24	5.43%	Athletic Fields (Schools)	27.56
						Recreational Land	235.57
						Stadium, Theaters, Cultural Centers, and Zoos	23.11
			Cemetery	45.46	0.86%	Cemetery	45.46
Transportation and Utilities	328.23	6.23%	Transportation	245.19	4.65%	Bridge over Water	3.46
						Major Roadway	183.16
						Railroads	58.57
			Transportation/ Communication/Utilities	83.04	1.58%	Transportation/Communication/Utilities	83.04
Industrial	257.98	4.90%	Industrial	257.98	4.90%	Industrial	251.56

Land Use	Acres (Use)	Percent (Use)	Land Use Group	Acres (Group)	Percent (Group)	Land Use Type	Acres (Type)
						Industrial and Commercial Complexes	6.42
Undeveloped Uplands	185.44	3.52%	Brush/Shrubland	52.06	0.99%	Deciduous Brush/Shrubland	41.60
						Mixed Deciduous/Coniferous Brush/Shrubland	9.67
						Old Field (<25% Brush Covered)	0.79
			Deciduous or Mixed Forest	133.38	2.53%	Deciduous Forest (>50% Crown Closure)	49.90
						Deciduous Forest (10–50% Crown Closure)	79.85
						Mixed Forest (>50% Coniferous with 10–50% Crown Closure)	0.19
						Mixed Forest (>50% Deciduous with 10–50% Crown Closure)	3.44
Wetlands	59.57	1.13%	Deciduous Wetlands	49.28	0.94%	Deciduous Scrub/Shrub Wetlands	2.72
						Deciduous Wooded Wetlands	46.56
			Disturbed or Managed Wetlands	10.29	0.20%	Disturbed Wetlands (Modified)	1.31
						Managed Wetland in Built-Up Maintained Rec Area	1.00
						Phragmites Dominate Interior Wetlands	7.97
Total	**5,270.09**			**5,270.09**			**5,270.09**

Source: NJDEP, 2007

Natural Vegetation

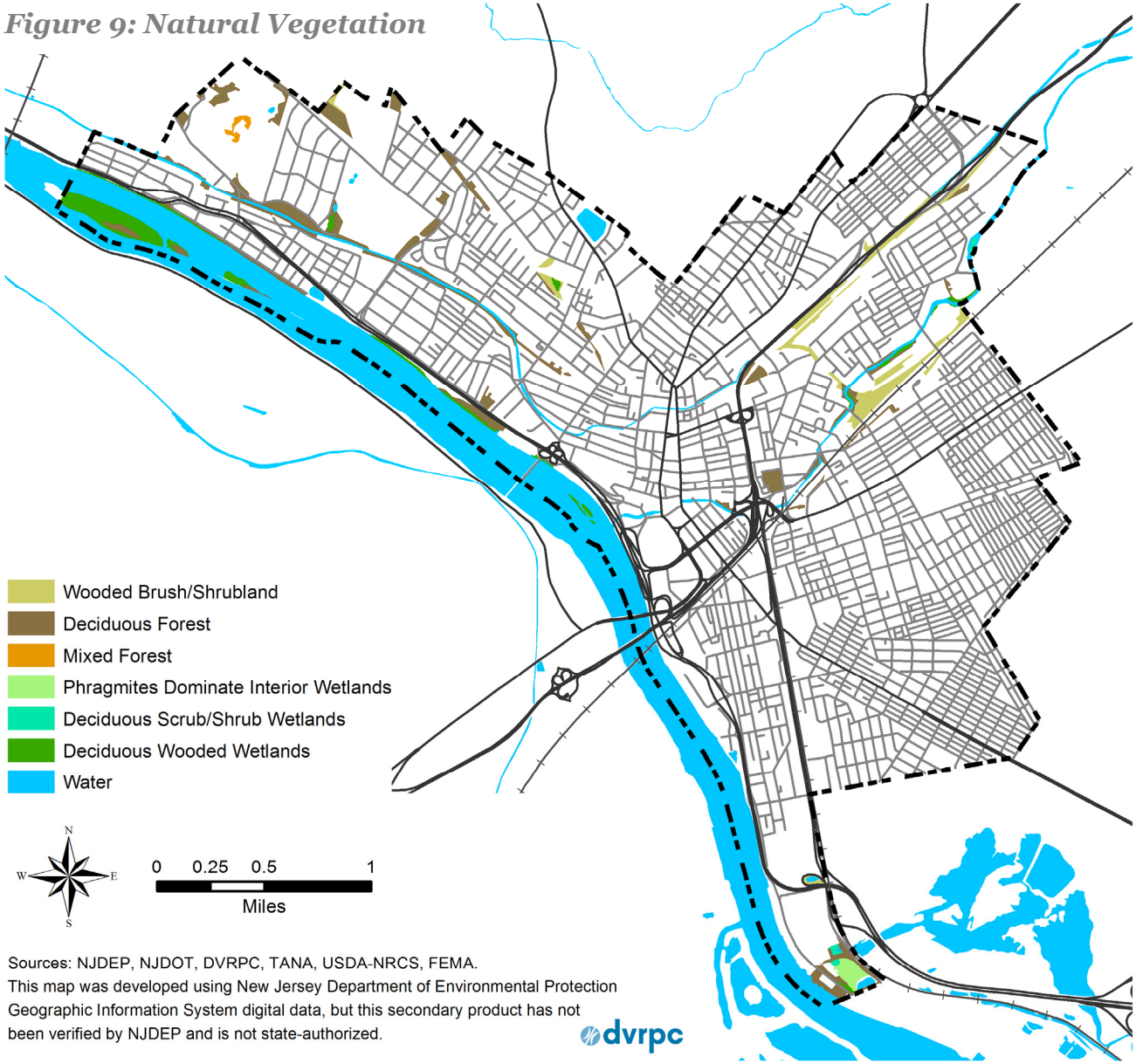
Land classified as natural vegetation includes those areas where plants exist spontaneously without regular management or maintenance. Natural vegetation types are categorized as wetlands, upland forests, and grasslands.

The largest area of natural vegetation in Trenton is Rotary Island, an undeveloped area of mostly forested wetlands. Other areas identified as natural vegetation include Mercer Cemetery, Stacey Park, and portions of the D & R Canal, the Assunpink Greenway, Cadwalader Park, the Trenton Psychiatric Hospital, and other areas.

The southern end of Trenton adjacent to the Abbott Marshlands consists of a variety of wetland types along with deciduous forest.

There are a total of 241 acres of natural vegetation in Trenton, excluding water. The largest type is deciduous forest, covering approximately 130 acres.

Figure 9: Natural Vegetation



Landscape Project

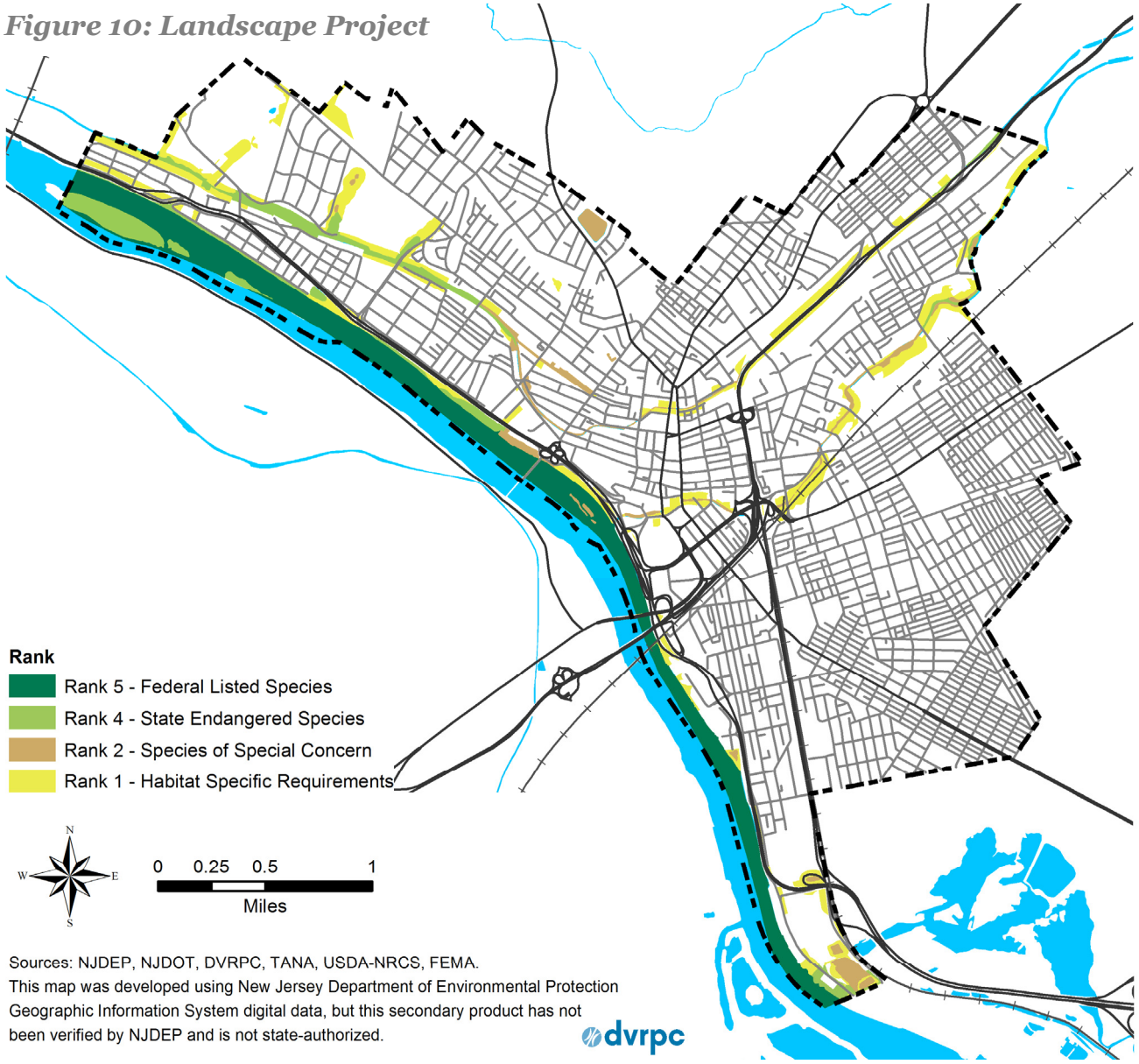
The Landscape Project is a project of the NJDEP Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) to identify and document threatened and endangered species habitat. New Jersey is divided into Landscape Regions where plant and animal communities are ecologically similar and closely interlinked.

Trenton is located in the Piedmont Plains region, which is dominated by the Delaware and Raritan rivers and is characterized by farmed areas, extensive grasslands, fragmented woodlands, and productive tidal marshes.

The Landscape Project identifies species-specific habitat in the state based on a combination of two factors: (1) land use/land cover patches specific for each species and (2) species occurrence records from the Biotics database. The resulting species-specific habitat patches are classified according to a scale of five ranks based the status of each species as follows:

- Rank 5: Assigned to species-specific habitat patches containing one or more

Figure 10: Landscape Project



occurrences of wildlife listed as endangered and threatened pursuant to the Federal Endangered Species Act of 1973.

- Rank 4: Assigned to species-specific habitat patches with one or more occurrences of state endangered species.
- Rank 3: Assigned to species-specific patches containing one or more occurrences of state threatened species.
- Rank 2: Assigned to species-specific habitat patches containing one or more occurrences of species considered to be species of special concern.
- Rank 1: Assigned to species-specific habitat patches that meet habitat-specific suitability requirements such as minimum size or core area criteria for endangered, threatened, or special concern wildlife species, but that do not intersect with any confirmed occurrences of such species.

Within Trenton, important habitat for rare species is predominantly located within and along the banks of the Delaware River, the D & R Canal, and Assunpink Creek. Two endangered species (the shortnose sturgeon and the bald eagle) as well as two species of special concern (great blue heron and cobra clubtail) are found in Trenton.

Shortnose Sturgeon

Cobra Clubtail

Bald Eagle

Great Blue Heron

Table 8: Rare Animal Species

Location	Species	Class	Federal Status	NJ Status	Sighting
Delaware River, D & R Canal, Assunpink Creek	Bald Eagle	Aves	NA	Endangered	Foraging
	Great Blue Heron	Aves	NA	Special Concern	Foraging
Delaware River	Shortnose Sturgeon	Osteichthyes	Endangered	Endangered	Migration Corridor - Adult; Summering Area - Adult; Overwintering Area - Adult; Nursery Area - Larvae; Migration Corridor - Juvenile
	Cobra Clubtail	Insecta	NA	Special Concern	Exuviae

Source: NJDEP, 2012

Floodplains

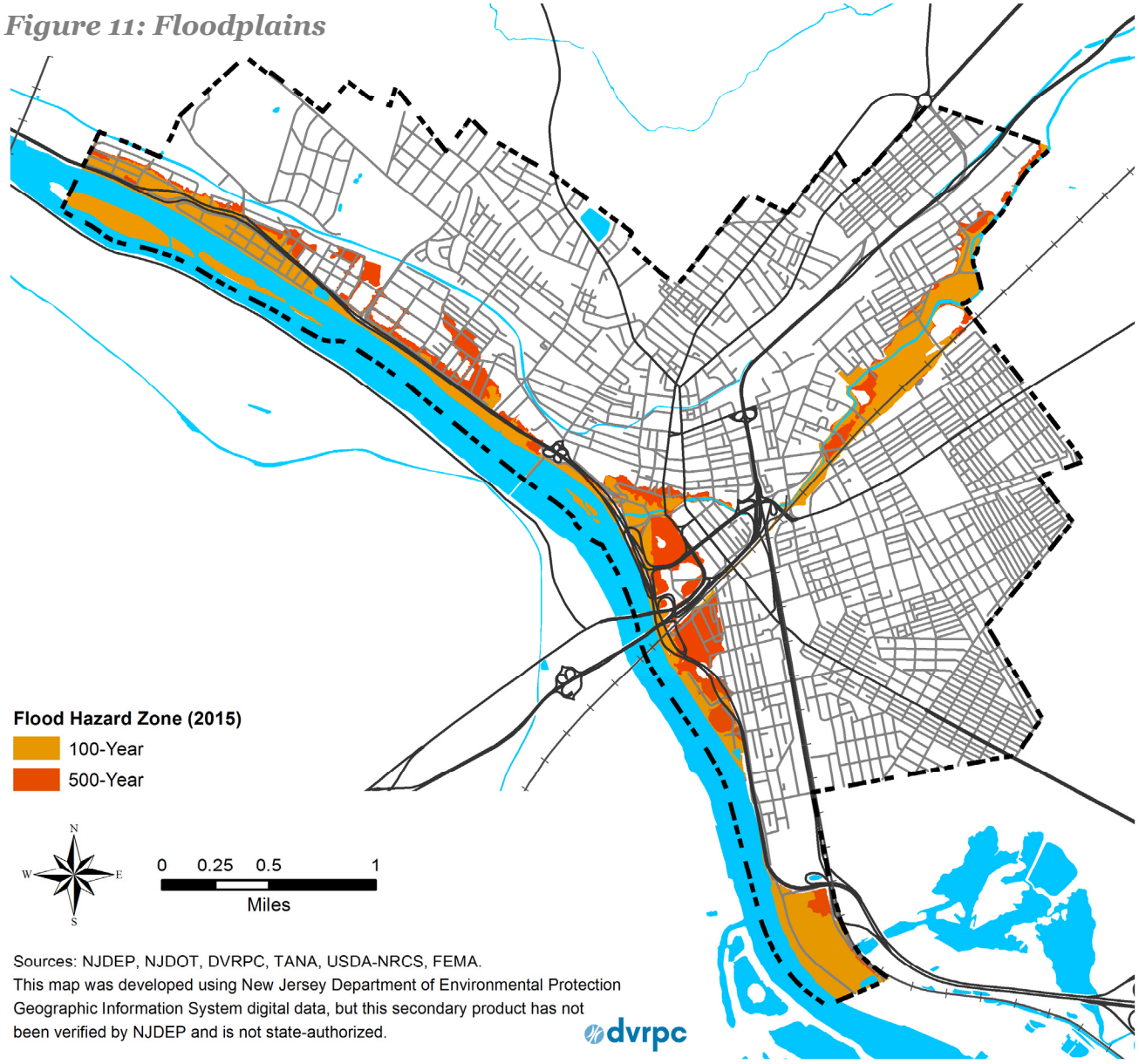
A flood is defined as a condition where two or more acres of normally dry land or two or more properties are inundated by water or mudflow. A flood can be caused by hurricanes, overtopped levees, clogged or overloaded stormwater systems, or rapid accumulation of rainfall.

Areas naturally subject to flooding are called floodplains, or flood hazard areas. The 100-year floodplain is defined as the land area that will be inundated by the overflow of water resulting from a flood that has a one percent chance of occurring in any given year. The 500-year floodplain is defined as the area that has a 0.2 percent chance of flooding in any given year.

Within Trenton, the 100-year floodplain includes portions of the Glen Afton and Island neighborhoods, a residential area south of Ferry Street in South Trenton, the entire Route 29 corridor, the Route 1 interchange area, and portions of the Northeast Corridor railroad.

A Preliminary Flood Hazard Map for Mercer County has been released by the Federal Emergency Management

Figure 11: Floodplains



Agency (FEMA), although it will not become effective until 2015.

The following table lists the types of land uses in Trenton that are located within the floodplain, listed by total number of acres of each general land use type in decreasing order.

Table 9: Land Use within Floodplains

General Land Use Type	Detailed Land Use Type	Acres			
		100-Year Floodplain	500-Year Floodplain	Total Area in Floodplain	
Water	Artificial Lakes	4.28	0.00	4.28	337.28
	Bridge Over Water	2.86	0.00	2.86	
	Natural Lakes	0.21	0.00	0.21	
	Streams and Canals	211.84	0.01	211.85	
	Tidal Rivers, Inland Bays, and Other Tidal Waters	118.08	0.00	118.08	
Residential	Residential, High Density or Multiple Dwelling	47.76	72.58	120.34	158.78
	Residential, Rural, Single Unit	1.37	0.69	2.05	
	Residential, Single Unit, Low Density	4.39	1.90	6.29	
	Residential, Single Unit, Medium Density	22.02	8.08	30.10	
Transportation, Communication, or Utilities	Railroads	26.44	1.44	27.88	136.59
	Major Roadway	37.42	26.63	64.05	
	Stormwater Basin	1.96	0.53	2.49	
	Transportation/Communication/Utilities	32.41	9.62	42.03	
	Upland Rights-of-Way Undeveloped	0.14	0.00	0.14	
Commercial/Services	Commercial/Services	35.94	57.10	93.04	93.04
Altered, Mixed, or Other Urban Land	Altered Lands	1.50	0.60	2.10	63.25
	Mixed Urban or Built-Up Land	0.29	0.29	0.58	
	Other Urban or Built-Up Land	44.51	16.06	60.57	
Wetlands	Deciduous Scrub/Shrub Wetlands	2.72	0.00	2.72	56.11
	Deciduous Wooded Wetlands	43.94	0.17	44.11	

General Land Use Type	Detailed Land Use Type	Acres			
		100-Year Floodplain	500-Year Floodplain	Total Area in Floodplain	
	Disturbed Wetlands (Modified)	1.31	0.00	1.31	
	Phragmites Dominate Interior Wetlands	7.97	0.00	7.97	
Recreational Land	Recreational Land	26.85	15.39	42.24	55.59
	Stadium, Theaters, Cultural Centers, and Zoos	5.04	8.30	13.35	
Industrial	Industrial	28.08	15.21	43.29	49.71
	Industrial and Commercial Complexes	6.42	0.00	6.42	
Deciduous or Mixed Forest	Deciduous Forest (>50% Crown Closure)	9.22	0.64	9.87	39.49
	Deciduous Forest (10–50% Crown Closure)	27.62	2.00	29.63	
Brush/Shrubland	Deciduous Brush/Shrubland	16.34	3.83	20.17	20.84
	Old Field (<25% Brush Covered)	0.68	0.00	0.68	
Total		**769.62**	**241.07**		**1,010.69**

Source: NJDEP 2007 and FEMA 2015

Damage from flooding can be reduced through appropriate stormwater management and hazard mitigation. The City of Trenton has a Stormwater Management Plan and Ordinance drafted in accordance with the New Jersey Stormwater Management Rules. These measures establish stormwater design and performance standards for major land development and redevelopment projects to protect water quality, quantity, and groundwater recharge. The City of Trenton also adopted a Hazard Mitigation Plan in 2008 in accordance with the federal Disaster Mitigation Act of 2000. This plan includes a detailed characterization of natural hazards facing the city, a risk assessment that describes potential losses, a set of goals and strategies to guide Trenton's mitigation activities, and a detailed implementation and monitoring plan.

Parks and Trails

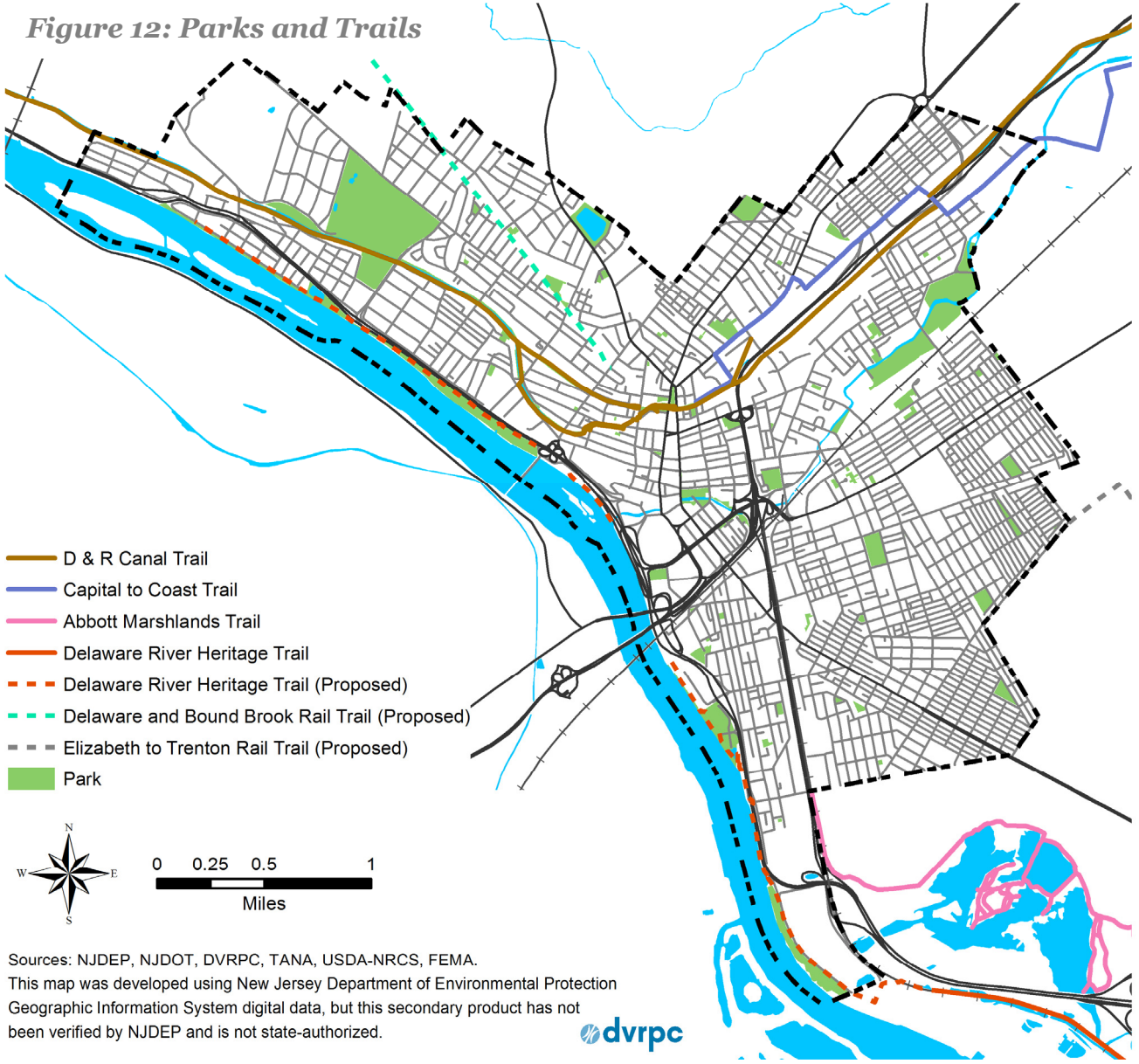
The City of Trenton has a variety of parks and recreation facilities, ranging from sports fields and playgrounds to multi-use trails.

At about 100 acres in size, the largest park in the city is the historic **Cadwalader Park**, designed by Frederick Law Olmsted. The Trenton Museum, housed in the historic Ellarslie mansion, is located within Cadwalader Park.

Another symbolic feature in Trenton is the **Battle Monument**, which commemorates the American victory at the first Battle of Trenton on December 26, 1776. The monument's location at the intersection of Broad and Warren Streets is where the American artillery was stationed to defend the city.

The **Delaware & Raritan (D & R) Canal State Park** extends for nearly seven miles through the city and includes both the feeder and main canal towpath historically used by mules to pull barges along the canal. Part of the National Recreational Trails System, the 70-mile linear park and multi-use trail connects Lambertville to New Brunswick.

Figure 12: Parks and Trails



The **Assunpink Creek Greenway** is a 99-acre proposed trail and series of parks that is currently being developed by the City of Trenton. Portions of the Greenway involve remediation and conversion of industrial land to passive and active recreational land.

The proposed **Delaware River Heritage Trail** is a multi-use bi-state trail that would extend from Trenton to Palmyra in New Jersey. Trenton currently has limited access to the Delaware River waterfront. The original footprint of Stacey Park was eliminated with the construction of Route 29 in the 1950s, leaving only a sliver north of Calhoun Street. Plans to replace Route 29 with an urban boulevard would enable the downtown to reconnect to the river through pedestrian-oriented mixed-use waterfront redevelopment and new open space.

Other parks in the City include Mill Hill Park, Columbus Park, Franklin Park, West Ward Park, Chestnut Community Garden, Roberto Clemente Park, and Martin Luther King Park. **Table 10** lists all parks located in the city. Municipal parks and open spaces in Trenton are managed by the Department of Recreation, Natural Resources, and Culture. State-owned facilities are managed by the New Jersey Division of Parks and Forestry. County facilities are managed by the Mercer County Park Commission.

Table 10: Parks and Recreation Facilities

Name	Block	Lot	Owner	Acres
Agabati Square	16406	1	Municipal	0.50
Assunpink Greenway	21404	1	Municipal	1.37
	21404	2		
Battle Monument Reserve	7104	1	State	0.69
	7104	2		
	7104	3		
	7104	9.03		
	8003	1		
	8003	2		
	8003	3		
	8003	4		
Beech Playground	11604	31	Municipal	1.06
Bond-Middle Rose Open Space	8403	20	Municipal	0.30
	8403	20.0		
	8403	20.0		
	8403	46		
Breuning Ave Park	22504	49	Municipal	0.32
	22504	49.0		
	22504	49.0		
	22504	49.0		
	22504	49.0		
	22504	49.0		
Bridge Street Park	11001	1	Municipal	0.14
Cadwalader Park	32401	4	Municipal	118.5
	32701	1		
	32701	2		
	34906	1		
	32501	1		
	32501	2		
Canal Plaza	7102	1	Municipal	0.53
Capitol City Sports Complex	9308	1	Municipal	7.34
	9406	2		

Name	Block	Lot	Owner	Acres
Carlos Negron Park	2105	3	Municipal	0.18
	2105	3.01		
	2105	3.02		
	2105	3.03		
Centre Street Playground	26904	10	Municipal	0.44
	26904	11		
	26904	12		
	26904	13		
Chambers/Locust Garden	13003	17	Municipal	0.50
Chestnut Ave Tennis Court	18602	22	Municipal	0.28
Chestnut Community Garden	13201	32	Municipal	0.59
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
	13201	32.0		
Clay St Park	9804	3	Municipal	1.72
	9701	3		
Columbus Park	15001	1	Municipal	7.00
Cook Y PAL Recreation Center	39303	1	Municipal	3.71
Cooper Field	11006	12	Municipal	2.55
	11006	13		
	11101	1		
	11302	1.01		

Name	Block	Lot	Owner	Acres
D & R Canal State Park	2201	1	State	20.97
	2201	16		
	2201	17		
	2201	18		
	2201	19		
	2201	20		
	2201	31		
	2201	32		
	2202	1		
	2202	2		
	2202	3		
	2303	29		
	2303	30		
	2304	21		
	2304	23		
	2304	30		
	2505	1		
	2505	2		
	2505	3		
	2506	1		
	2701	1		
	2701	2		
	2701	3		
	2801	3		
	2801	4		
	3501	15		
	3502	1		
	3505	1		

Name	Block	Lot	Owner	Acres
D & R Canal State Park (cont.)	3602	1		
	3704	1		
	3706	5		
	3706	7		
	3706	10		
	3708	1		
	4002	10		
	4005	1		
	4602	2		
	4704	57		
	4802	3		
	4802	4		
	5804	9		
	6003	24		
	6406	13		
	7103	1		
	7301	1		
	23501	3		
	23501	4		
	23602	1		
	31701	1		
	32001	1		
	32401	1		
	32401	2		
	34201	9		
	34201	11		
	34201	12		
	35907	1		

Name	Block	Lot	Owner	Acres
D & R Canal State Park (cont.)	35907	2		
	36601	1		
Edgewood Ave Playground	2202	2	State	9.20
	2202	3		
	2701	2		
	2701	3		
	2701	5		
	2701	6		
	2701	21		
Fisher Place	3002	1	Nonprofit	0.75
Franklin Park	21109	1	Municipal	2.83
	21308	1		
Freight Yards (Assunpink Greenway)	25101	4.01	Municipal	19.15
	25101	4.01		
	25101	4.02		
	25101	6		
	25101	6		
	25101	7		
	25201	4		
	25201	5		
	25301	5		
	25301	6		
	25401	7		
	25401	8		
	25401	9		
Garfield Ave Playground	26803	10	Municipal	0.55
	26803	10.0		
	26803	10.0		

Name	Block	Lot	Owner	Acres
Garfield Ave Playground (cont.)	26803	10.0		
	26803	10.0		
	26803	11		
	26803	12		
George Page Park (Assunpink Greenway)	22101	1	Municipal	28.65
	22101	2		
	22101	3		
	22101	3.01		
	22201	1		
	25601	6		
Grant Ave Playground	1603	34	Municipal	0.58
	1603	35		
	1603	36		
	1603	37		
Greg Grant Park	26503	13	Municipal	1.04
	26503	14		
	26503	15		
	26503	16		
	26503	17		
	26503	18		
Hetzel Field (Assunpink Greenway)	22101	2	Municipal	28.65
	22101	3		
	22201	1		
	25501	5		
	25501	6		
	25501	7		
	25501	8		
	25601	6		

Name	Block	Lot	Owner	Acres
Jeffrey Vincent Park	13101	25	Municipal	1.16
	13101	32		
	13101	66		
	13101	67		
	13101	68		
	13101	69		
	13101	88		
	13101	89		
	13101	100		
	13101	101		
Kearney Ave Park	31402	1	Municipal	0.11
	31402	1.01		
Laurel Park	6304	1	Municipal	0.64
Marine Terminal Park	12402	1.01	Municipal	16.49
	12402	2		
	12402	3		
	12402	4		
Martin Luther King Park	8506	9	Municipal	5.05
	8506	10		
	8506	23		
Mercer Cemetery	701	3	Municipal	5.20
Millyard Park	16001	4	County	0.83
Mgsr Lipinski Park	24406	7	Municipal	2.21
	24701	21		
Mill Hill Park	203	6	Municipal	5.56
	205	1		
	9501	20		
	9501	20.0		

Name	Block	Lot	Owner	Acres
Mill Hill Park (cont.)	9501	20.0		
	9603	1		
	203	2		
	304	5		
	304	6		
Monmouth Field	12601	21	Municipal	2.06
Mulberry St Park (Assunpink Greenway)	22001	1	Municipal	4.22
	22001	2		
	22001	2		
	22001	3.01		
	22001	3.02		
	22001	3.03		
	22001	4		
	22001	4.02		
New Lamberton St Park	10307	9	Municipal	0.44
North 25 Park	3801	2	State	1.53
	3802	1		
	3802	2		
	3802	3		
	3804	1		
	3801	1	Municipal	1.89
	3801	3		
	3801	4.01		
	3801	5.01		
	3801	5.02		
	3801	5.03		
	3801	5.04		
	3801	5.06		

Name	Block	Lot	Owner	Acres
North 25 Park (cont.)	3801	13		
	3801	16		
	3801	20		
	3801	20.0		
	3801	20.0		
	3801	20.0		
	3801	20.0		
	3801	20.0		
	3801	20.0		
	3801	20.0		
	3801	21		
	3801	21.0		
	3801	21.0		
	3801	23		
	3801	23.0		
Oakland Street Playground	5704	3	Municipal	0.85
	5704	3.01		
Pat Pone Park	17807	2	Municipal	0.94
Roberto Clemente Park	7203	1	Municipal	1.78
	7203	23.0		
	7203	23.0		
	7203	23.0		
Roebling Park	17503	1	Municipal	0.39
Roma Plaza	14701	30	Municipal	0.03
Rossi Park	9004	15	Municipal	0.28
	9004	15.0		
	9004	15.0		
	9004	15.0		
	9004	15.0		

Name	Block	Lot	Owner	Acres
Rotary Island and Blauguard Island	35701	1	State	32.84
	35702	1		
Rutherford Ave Playground	6402	21	Municipal	0.31
	6402	22		
Second St Playground	12203	38	Municipal	0.19
Shard Garden	11801	52	Municipal	0.77
	11801	53		
	11801	54		
	11801	54.0		
	11801	54.0		
	11801	54.0		
Sonny Vereen Playground	21401	2	Municipal	1.80
	21401	12		
Southward Park	1101	19	Municipal	0.18
	1101	19.0		
	1101	19.0		
	1101	19.0		
Spring Street Park	3501	1	Municipal	0.10
St. Joe's Ave Park	22401	72	Municipal	0.17
	22401	73		
Stacey Park	2402	1	Municipal	34.74
	2903	1		
	3003	1		
	3104	1		
	3303	1		
	31902	1		
	32202	1		
	32304	1		

Name	Block	Lot	Owner	Acres
Stacey Park (cont.)	32605	1		
	34106	1		
	34307	1		
	35202	1		
	38008	1		
Steamboat Street Playground	11006	17.0	Municipal	0.19
	11006	17.0		
	11006	17.0		
	11006	17.0		
	11006	17.0		
	11006	17.0		
	11006	17.0		
	11006	17.0		
	11006	17.0		
Sweets Fountain Park	6601	29	Municipal	0.59
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.0		
	6601	29.1		
	6601	29.1		
	6702	1		
Trent House	10703	2	Municipal	2.93
	10703	2.01		

Name	Block	Lot	Owner	Acres
Trent House (cont.)	10703	2.02		
Trenton Boys Club	33401	16	Municipal	1.15
	33401	20		
	33401	22		
V & S Acquisition	26102	1	Municipal	3.21
	26102	2		
	26102	3		
	26102	4		
	26102	5		
	26102	6		
	26102	7		
	26102	8		
	26201	2		
	26201	3		
	26201	4		
	26201	5		
	26201	5.01		
	26201	6		
	26201	10		
Veterans Park	201	8	Municipal	0.05
Villa Park	30005	1	Municipal	0.85
	30401	1		1.27
Warren Street Plaza	3403	1	Municipal	0.30
Waterfront Park (South Riverwalk	11301	5	County	21.18
Park)	11403	4.01		
	11403	5.01		
	11403	6.01		
West Ward Park	5101	6	Municipal	3.94
	5101	19		
Wetzel Field	31601	24	Municipal	3.71
Wilkinson Place	3502	28	Municipal	0.21
	3502	28.0		
	3502	28.0		
	3502	28.0		
	3502	28.0		
	3502	28.0		
	3502	28.0		
	3502	28.0		
	3502	28.0		
Willow & Pennington Plaza	3901	20	Municipal	0.14
Total				**422.56**

Source: City of Trenton, 2013; DVRPC, 2011

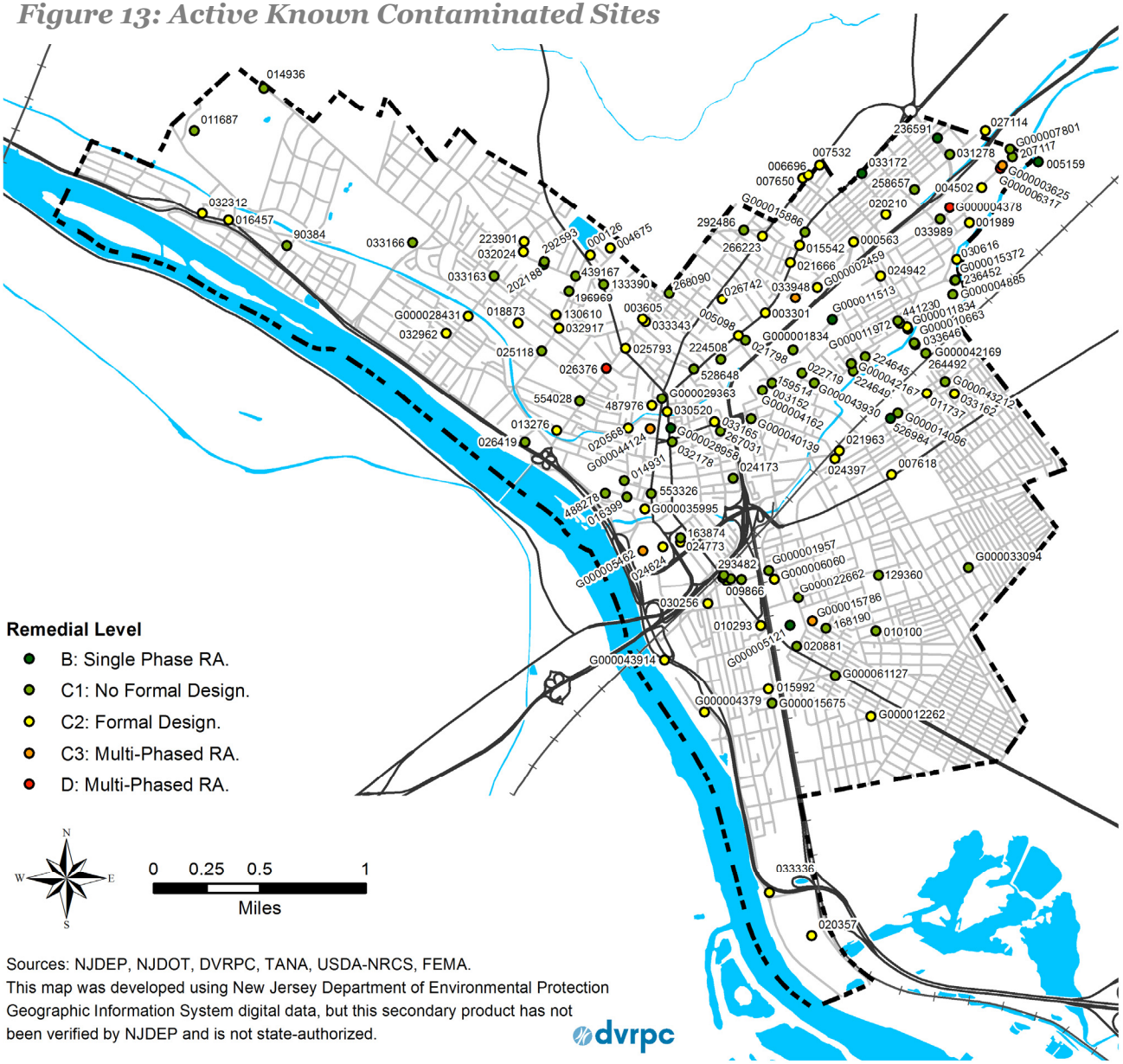
Known Contaminated Sites

The New Jersey Known Contaminated Sites (KCS) List includes former factory sites, landfills, locations of current or former leaking underground storage tanks, sites where chemicals or wastes were once routinely discharged, and places where accidents have resulted in spills and pollution. Contamination may have affected soil, groundwater, surface water, or a combination of site conditions. There are 137 active sites with confirmed contamination within or on the border of the City of Trenton.

These sites are regulated by the NJDEP's Site Remediation Program in accordance with the state laws. A contaminant can be a discharged hazardous substance, hazardous waste, or a pollutant. The most common types of pollutants found at contaminated sites are petroleum hydrocarbons, polynuclear aromatic hydrocarbons (such as naphthalene), solvents, pesticides, lead, and other heavy metals.

Sites are categorized based on their remedial level, which reflects the overall degree of contamination at a site. The B level is associated with emergency response and simple

Figure 13: Active Known Contaminated Sites



removal activities of contamination with no impact to soil or groundwater. The C1 level is associated with simple sites with one or two contaminants located to soil and the immediate spill or discharge area. The C2 level is associated with more complicated contaminant discharges or multiple site spills and discharges with impacts to both soil and groundwater. The C3 level is associated with highly complex and threatening sites involving multiple contaminants at high concentrations with impacts to not only soils and groundwater but also potentially surface waters and drinking water resources. The D level has the same conditions as the C3 level, but these sites are typically designated as Federal "Superfund" sites on the National Priorities List. However, there are no sites on the National Priority List in or surrounding Trenton.

More information on each site can be found through the NJDEP Data Miner website by searching the Program Interest (PI) identification number.

Table 11: Active Known Contaminated Sites

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
000126	Cadillac Joe Servicenter	546 Pennington Ave	Trenton	C2
000563	801 N Olden St Trenton LLC	801 N Olden Ave	Trenton	C2
001989	J Lestician Trucking Inc	500 Breunig Ave	Trenton	C2
003152	Trenton Housing Authority	220 Southard St	Trenton	C1
003301	Trenton Public Works	476 Brunswick Ave	Trenton	C2
003605	Garbage & Trash Removal	707 Calhoun St	Trenton	C2
004502	Federated Metals Corp	300 Enterprise Ave	Trenton	C2
004675	Comcast Cablevision	940 Prospect St	Trenton	C2
005098	Shaikh Brothers Inc	406 Brunswick Ave	Trenton	C2
005159	Trans America Delaval Inc-Delroy	121 1st Ave	Hamilton	B
006696	Hess Station 30239	1513 Princeton Ave	Ewing	C2
007532	Reither Bros Garage	1570 Princeton Ave	Trenton	C2
007618	800 Greenwood Ave	800 Greenwood Ave	Trenton	C2
007650	Hess Station 30223	1517 N Olden Ave	Ewing	C2
009866	The Foundry	80 Hamilton Ave	Trenton	C1
010100	Sainte Marie Cleaners	725 Chestnut Ave	Trenton	C1
010293	Roadrunner Gas Service Station Inc	579 585 S Broad St	Trenton	C2
011687	Trenton Psychiatric Hospital	100 Sullivan Way	Trenton	C1
011737	Mercer Bus Garage	1132 E State St	Trenton	C2

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
013276	Quart Inc T/A Riggins	33 39 Calhoun St	Trenton	C2
014931	State House Complex	101 W State St	Trenton	C1
015542	Capital Health Systems & Fuld Campus	750 Brunswick Ave	Trenton	C2
015992	NJ State Prison Powerhouse	3rd St & Cass St	Trenton	C2
016399	Trenton Masonic Temple	100 Barrack St	Trenton	C1
016457	Sunoco 0010-3226	110 Sanhican Dr	Trenton	C2
018873	Amerada Hess Trenton Terminal	141 Oakland St	Trenton	C2
020210	R.E Michel Co	827 New York Ave	Trenton	C2
020357	Regional Sludge Management Facil	1600 Lamberton Rd	Trenton	C2
020568	Willow & Passaic St Garage	145 149 N Willow St	Trenton	C2
020881	Princeton Auto Brokers	682 S Broad St	Trenton	C1
021666	Eton Cleaners	701 Brunswick Ave	Trenton	C2
021798	National Ceramic Company Inc	500 Southard St	Trenton	C1
021963	The RC Maxwell Co	725 E State St	Trenton	C2
022719	Trenton Police Department	225 N Clinton Ave	Trenton	C1
024173	Trenton Hall Annex	319 E State St	Trenton	C1
024397	Crossley Machine Co	301 Monmouth St	Trenton	C2
024624	Trigen Trenton Energy Co LP	320 S Warren St	Trenton	C2
024773	Mercer Detention Center	200 Market St	Trenton	C2
024942	Kramer Trenton Company	637 N Olden Ave	Trenton	C2
025118	Campbell Homes	110 Prospect Pl	Trenton	C1
025793	160 Pennington Ave	160 Pennington Ave	Trenton	C2
026376	Magic Marker Inc	465 467 Calhoun St	Trenton	D
026419	Barbruce Realty Co	333 W State St	Trenton	C1
026742	Dr Martin Luther King Middle Sch	800 Martin Luther King Blvd	Trenton	C2
027114	Hyrocabon Research Incorporated	1501 New York Ave	Lawrence	C2

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
030256	Chevron Duck Island Terminal	Lamberton Rd	Trenton	C2
030520	McCraes Gulf	305 N Broad St	Trenton	C2
030616	Hutchinson Industries Inc	106 108 Mulberry St	Trenton	C2
031278	Lambert Furniture Corp	1301 New York Ave	Trenton	C1
032024	Gentry Holding Inc	153 Oakland St	Trenton	C2
032178	Addiction Science Center	212 224 N Broad St	Trenton	C1
032312	Exxon Service Station 3-0109	144 Sanhican Dr	Trenton	C2
032917	New Method Cleaners Inc	310 Prospect St	Trenton	C2
032962	Warehouse	149 Boudinot St	Trenton	C2
033162	Trenton Fire Dept Engine #6	59 S Olden Ave	Trenton	C2
033165	Central Fire Headquarters	302 334 Perry St	Trenton	C2
033166	Cadwalader Park	Parkside Ave	Trenton	C1
033172	Engine 9	1100 Brunswick Ave	Trenton	B
033343	Texaco Service Station (Former)	700 Calhoun St	Trenton	C2
033646	Hetzel Field Trenton Dept of Recreation	186 190 N Olden Ave	Trenton	C1
033948	PSE&G Former Brunswick Ave Facility	New York Ave & Sylvester St	Trenton	C3
033989	Roadrunner	334 Mulberry St	Trenton	C1
90384	Proposed West Ward Firehouse	1464 W State St	Trenton	C1
129360	114 Division Street	114 Division St	Trenton	C1
130610	301 Prospect Street	301 Prospect St	Trenton	C2
159514	NJ DOT Southard Street Bridge	Southard St	Trenton	C3
163874	Trenton House Square	New Warren St	Trenton	C1
168190	Trenton Performing Arts Center	621 Hudson St	Trenton	C1
196969	Cheney Flashing	623 Prospect St	Trenton	C1
202188	Millhill Family Center	101 Oakland St	Trenton	B
207117	Cordey China	356 Enterprise Ave	Trenton	C1

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
223901	Oakland Park Apartments	224 Coolidge Ave	Trenton	C2
224645	Trenton Greenway	121 Poplar St	Trenton	C1
224649	Trenton Greenway	101 Hart Ave	Trenton	C1
236452	Scarpatts Scrap Metals & Recycling	10 Nottingham Way	Trenton	C1
236591	Cammerzell Tool & Die Works Inc	650 Strawberry St	Trenton	B
258657	Peters Scrap Yard	1050 New York Ave	Trenton	C1
264492	Frank Millner Company Building Supplies	102 N Olden Ave	Trenton	C1
266223	1228 Martin Luther King Jr Boulevard	1228 Martin Luther King Blvd	Trenton	C2
268090	902 Calhoun Street	902 Calhoun St	Trenton	C1
292486	Father Rocco Park	Calhoun St & N Willow St	Trenton	C1
292593	80 Oakland Street	80 Oakland St	Trenton	C1
293482	The Foundry	444 S Broad St	Trenton	C1
293482	The Foundry	450 S Broad St	Trenton	C1
293482	The Foundry	432 450 S Broad St	Trenton	C1
293482	The Foundry	436 S Broad St	Trenton	C1
439167	621 Prospect Street	621 Prospect St	Trenton	C1
441230	SL Enterprises Incorporated	319 N Olden Ave	Trenton	C1
487976	Isles Inc	33 Tucker St	Trenton	C2
488278	NJ Capital Park Project Phase 1A & 1B	125 165 W State St	Trenton	C1
528648	193 Brunswick Avenue	193 Brunswick Ave	Trenton	C1
553326	Kwik Kleen Cleaners	110 114 S Warren St	Trenton	C1
554028	Calhoun & Church	Calhoun & Church Sts	Trenton	C1
014936	Distribution Center	1620 Stuyvesant Ave	Trenton	C1
033163	Engine 8	698 Stuyvesant Ave	Trenton	C1
033336	Rt 29 Sections 10C & 11B	Rt 29 & Lamberton Rd	Trenton	C2
133390	Pennington Avenue Project	300 400 Pennington Ave	Trenton	C1

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
224508	51 63 Oxford Street	51 63 Oxford Street	Trenton	C1
267031	Roberto Clemente Park	342 N Academy St	Trenton	C1
526984	Greg Grant Park Proposed East Trenton Homes	927 929 E State St	Trenton	B
G000001834	Industrial Metal Cleaners	15 Muirhead Ave	Trenton	C1
G000001957	Midak Industries Incorporated	120 Hamilton Ave	Trenton	C1
G000002459	Trenton Lehigh Coal & Oil	430 New York Ave	Trenton	C2
G000003625	Trenton Fleet Services	375 Enterprise Ave	Trenton	C3
G000004162	Aratex Service Company Blakely Uniform	250 Ewing St	Trenton	C1
G000004378	Thiokol Chemical Corporation	Enterprise Ave	Trenton	D
G000004379	US Steel Corporation American Bridge Div	501 John Fitch Pkwy	Trenton	C2
G000004885	Trenton Greenway Materials Electronic Prod	780 N Clinton Ave	Trenton	C1
G000005121	Roebling Steel Company	S Broad St & Clinton Ave	Trenton	B
G000005462	Warren Street Coal Gas (PSE&G)	Warren St	Trenton	C3
G000006060	Roebling Complex Block 3	21 71 Clark St	Trenton	C2
G000006317	Youngs Rubber Corporation	310 Enterprise Ave	Trenton	D
G000007801	Friction Division Products Incorporated	40 Enterprise Ave	Trenton	C1
G000010663	398 Olden Avenue	398 Olden Ave	Trenton	C2
G000011513	Luzerne Rubber Co	115 Muirhead Ave	Trenton	B
G000011834	Ajax Manufacturing Incorporated	200 N Olden Ave	Trenton	C2
G000011972	Eastern Summatek	335 N Olden Ave	Trenton	C1
G000012262	Cabinet Tronic	350 Grand St	Trenton	C2
G000014096	960 State Street East	960 E State St	Trenton	C1
G000015372	Trenton Greenway Anthony Storcella & Son Inc	21 Nottingham Way	Trenton	C1
G000015675	Pattern Machine & Foundry Company	241 3rd St	Trenton	C1
G000015786	Roebling Block 2	670 S Clinton Ave	Trenton	C3

Program Interest (PI) Number	Name	Address	Mun.	Remedial Level
G000015886	M & H Machine Company Incorporated	800 Brunswick Ave	Trenton	C1
G000022662	South Clinton Avenue & Elmer Street	S Clinton Ave & Elmer St	Trenton	C1
G000028431	230 Hermitage Avenue	230 Hermitage Ave	Trenton	C2
G000028958	Canal Plaza	226 Broad St	Trenton	B
G000029363	Monument Medical Arts Center	Pennington Ave & N Warren St	Trenton	C1
G000033094	359 Columbus Avenue	359 Columbus Ave	Trenton	C1
G000035995	Trenton Parking Utility	1 Lafayette St	Trenton	C2
G000040139	509-523 Perry St	509 523 Perry St	Trenton	C1
G000042167	Wilkins Parcel	Hart Ave	Trenton	C1
G000042169	Freight Yards	191 N Olden Ave	Trenton	C1
G000043212	E State St & S Olden Ave	East State Street & South Olden Ave	Trenton	C1
G000043914	NJDOT Route 29 Wharf Reconstruction	Rt 29	Trenton	C2
G000043930	32 to 48 Sheridan Avenue	32 48 Sheridan Ave	Trenton	C1
G000044124	Chauncey St Gas Works	19 Chauncey St	Trenton	C3
G000061127	895 S Broad St	895 S Broad St	Trenton	C1

Source: NJDEP, 2012

Lead Contamination

The types of contaminants found at these sites vary widely. However, one of the most common and harmful sources of contamination is lead. Lead has been found in at least 1,272 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA). Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust and can be found in all parts of the environment. Historically, lead was used for the manufacture of batteries, ammunition, metal products, medical devices, and other products. Lead was banned from household paint in 1978 and from gasoline in 1996. Its presence in other products, such as ceramics and pipe solder, has also been dramatically reduced.

Lead can be found in many sources. Lead-based paint and the dust produced as it deteriorates, found mostly in older homes built before 1978, are major contributors of lead exposure in children. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can also be found in some water pipes inside the home or pipes that connect homes to the main water supply pipe. Lead found in tap water usually comes from the decay of old lead-based pipes, fixtures, or from leaded solder that connects drinking water pipes. EPA limits lead in drinking water to 15 µg per liter. The presence of lead in household drinking water is monitored by samples taken at households. According to its regular monitoring, the Trenton Water Works has not detected a violation for lead since 1992. Lead can also be found in the soils at and surrounding former manufacturing facilities.

Lead can damage the nervous system, kidneys, and reproductive system. Exposure to lead can cause behavior problems and learning disabilities in young children and can also affect the health of adults. An environmental health assessment conducted in Trenton by the nonprofit Isles indicated high rates of lead poisoning and asthma incidence. Subsequent testing began in 2004 as part of a nationwide initiative of the Alliance to End Childhood Lead poisoning (now part of the National Center for Healthy Housing).

Ways to Reduce Lead Contamination

- Avoid exposure to sources of lead.
- Do not allow children to chew or mouth surfaces that may have been painted with lead-based paint.
- If you have a water lead problem, run or flush water that has been standing overnight before drinking or cooking with it.
- Some types of paints and pigments that are used as make-up or hair coloring contain lead. Keep these kinds of products away from children.
    - If your home contains lead-based paint or you live in an area contaminated with lead, wash children's hands and faces often to remove lead dusts and soil and regularly clean the house of dust and tracked-in soil.

No safe blood level has been identified, and all sources of lead exposure for children should be controlled or eliminated. According to the Centers for Disease Control (CDC), experts now use a reference level of 5 micrograms per deciliter (µg/dL) to identify children with blood lead levels that are much higher than most (97.5 percent) children's levels. Children require chelation (therapy to remove heavy metals from the body) once their blood lead level reaches 45 µg/dL. Testing done by Isles on children entering kindergarten in Trenton indicated that in the 2011–2012 school year, 23 percent of children tested had a blood lead level of at least 5 µg/dL, down from about 50 percent ten years earlier. No children were found to require chelation in the most recent testing, although a total of 16 students were found to have blood lead levels exceeding 45 µg/dL over the 13 years of testing.

Air Quality

Outdoor Air Quality

Air quality—both indoors and outdoors—has a major effect on human health. High or prolonged levels of air pollution are associated with increases in morbidity and mortality from illnesses such as asthma, lung cancer, emphysema, heart disease, and other potentially lethal conditions. Air quality is one of the most difficult environmental resources to measure because its sources are diffuse and regional in nature. Common sources of air pollution include industry, cars, trucks, buses, fires, and dust. Locally produced sources of air pollution include daily roadway traffic—especially from high-volume roads such as Route 1 and Route 29—and industrial facilities, which include local energy-generating plants.

Air quality is regulated by the federal Clean Air Act (CAA), which sets limits on certain air pollutants. Authority to enforce the CAA lies with the Environmental Protection Agency (EPA), although this authority is delegated to state and local governments such as the New Jersey Department of Environmental Protection (NJDEP).

The CAA established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA has set NAAQS for six criteria pollutants: ground-level ozone (O_3), particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NOX), sulfur dioxide (SO_2), and lead (Pb). The sidebar briefly describes the sources and human health effects of the six criteria pollutants.

Mercer County is currently designated as a non-attainment county for ground-level ozone. The county was removed from the non-attainment list for particulate matter 2.5 in September 2013. The following table shows the annual average air quality trends for the Trenton-Ewing Core Based Statistical Area (CBSA) for 2000 and 2012, along with the NAAQS levels. As shown in the table, ozone is the only criteria pollutant that exceeds the EPA standard.

Criteria Pollutants

Pollutant	Sources	Health Effect
Ozone (O_3)	Formed by chemical reaction of volatile organic compounds (VOCs) and NOx in the presence of sunlight	Decreases lung function and aggravates asthma and other lung diseases
Particulate matter (PM)	Chemical reactions; fuel combustion, industrial processes	Aggravates or causes heart or lung diseases
Carbon monoxide (CO)	Fuel combustion	Reduces the amount of oxygen reaching the body's organs and tissues; aggravates heart disease
Nitrogen oxides (NOX)	Fuel combustion	Aggravates lung diseases and increases susceptibility to respiratory infection
Sulfur dioxide (SO_2)	Fuel combustion, electric utilities and industrial processes, and natural sources	Aggravates asthma and increased respiratory symptoms
Lead (Pb)	Metal refineries and other metal industries, leaded gasoline, waste incinerators, and battery manufacturing	Damages the developing nervous system in children, cardiovascular and renal effects in adults

Table 12: Air Quality of Trenton-Ewing CBSA

Pollutant	Trend Statistic	2000 Average	2012 Average	NAAQS
NO_2	Annual Mean (ppb)	16	8	53
NO_2	98th Percentile (ppb)	53	40	100
O_3	4th Max (ppb)	0.099	0.080	0.075
PM_{10}	2nd Max (µg/m3)	55	53	150
$PM_{2.5}$	Weighted Annual Mean (µg/m3)	13.4	8.3	12
$PM_{2.5}$	98th Percentile (µg/m3)	37	20	35

Source: EPA, 2013

In addition to the six criteria pollutants, the EPA regulates another 188 hazardous air pollutants (or "air toxics") under the CAA, although there are no national air quality standards for these pollutants. There are only four stations in the state that monitor air toxics, none of which are located near Trenton. However, the NJDEP estimates these concentrations through the National-Scale Air Toxics Assessment (NATA) program of the EPA. According to the 2005 results from this model, the air toxics posing the greatest health risk for Mercer County are diesel particulate matter, formaldehyde, carbon tetrachloride, and benzene. The following table shows the Mercer County results from the 2005 NATA, with pollutants listed in descending order of risk. The "risk ratio" is the ratio of the estimated NATA air concentrations compared to their chemical-specific health benchmarks.

Table 13: Mercer County Average 2005 NATA Modeled Air Concentrations Compared to Health Benchmarks

Pollutant	Modeled Air Concentration (µg/m3)	Health Benchmark (µg/m3)	Risk Ratio	% Contribution from				
				Point Sources	Nonpoint Sources	On-road Mobile Sources	Non-road Mobile Sources	Background & Secondary
Diesel Particulate Matter	0.8	0.0033	244	0%	0%	54%	46%	0%
Formaldehyde	1.9	0.077	25	<1%	3%	6%	4%	87%
Carbon Tetrachloride	0.61	0.067	9.1	0%	<1%	0%	0%	100%
Benzene	1	0.13	7.7	<1%	12%	23%	11%	54%
Acetaldehyde	1.8	0.45	3.9	<1%	4%	4%	2%	90%
Naphthalene	0.098	0.029	3.4	1%	45%	21%	3%	30%
Chloroform	0.13	0.043	3.1	<1%	56%	0%	0%	44%
Acrolein	0.048	0.02	2.4	<1%	25%	12%	9%	54%
1,3-Butadiene	0.074	0.033	2.2	0%	<1%	31%	15%	54%
Methyl Chloride	1.2	0.56	2.2	0%	1%	0%	0%	99%
Arsenic Compounds	0.00048	0.00023	2.1	5%	13%	4%	4%	74%

Pollutant	Modeled Air Concentration (µg/m3)	Health Benchmark (µg/m3)	Risk Ratio	% Contribution from				
				Point Sources	Nonpoint Sources	On-road Mobile Sources	Non-road Mobile Sources	Background & Secondary
PAH/POM	0.014	0.0072	1.9	<1%	88%	5%	7%	0%
Chromium (hexavalent form)	0.00014	0.000083	1.7	17%	10%	5%	<1%	68%
1,4-Dichlorobenzene	0.11	0.091	1.2	<1%	26%	0%	0%	74%
Ethylene Oxide	0.012	0.011	1	1%	33%	0%	0%	66%
Perchloroethylene	0.16	0.17	1	<1%	60%	0%	0%	40%
Cadmium Compounds	0.00011	0.00024	0.4	5%	45%	0%	<1%	50%
1,3-Dichloropropene	0.11	0.25	0.4	0%	100%	0%	0%	0%
Ethylbenzene	0.18	0.4	0.4	1%	16%	49%	34%	0%
Nickel Compounds	0.00046	0.0021	0.2	42%	32%	4%	1%	21%
Cobalt Compounds	0.0000091	0.00011	0.08	100%	<1%	0%	0%	0%
1,1,2-Trichloroethane	1.30E-06	0.063	2.10E-05	18%	82%	0%	0%	0%

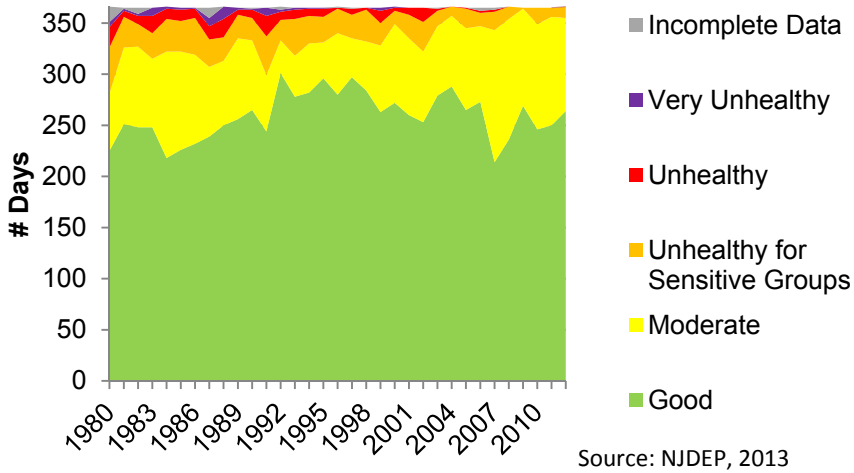
Source: NJDEP, 2013

Air Quality Index

The Air Quality Index (AQI) is an index for reporting air quality on a daily basis. The EPA created the AQI to indicate a region's air quality by measuring levels of five of the six criteria pollutants (excluding lead). The AQI is focused on the potential human health hazards experienced by breathing unhealthy air. Scores for the AQI range from 0 to 500 and are divided into six color-coded categories: Good (0–50), Moderate (51–100), Unhealthy for Sensitive Groups (101–500), Unhealthy (151–200), Very Unhealthy (201–300), and Hazardous (301–500).

The daily AQI score is based on the highest individual pollutant score reported. The index is also used to measure overall air quality by counting the number of days per year when the AQI of each metropolitan region exceeds 100. Annual AQI statistics are available for the Trenton-Ewing CBSA.

Figure 14: Air Quality Index for Trenton-Ewing CBSA, 1980–2012



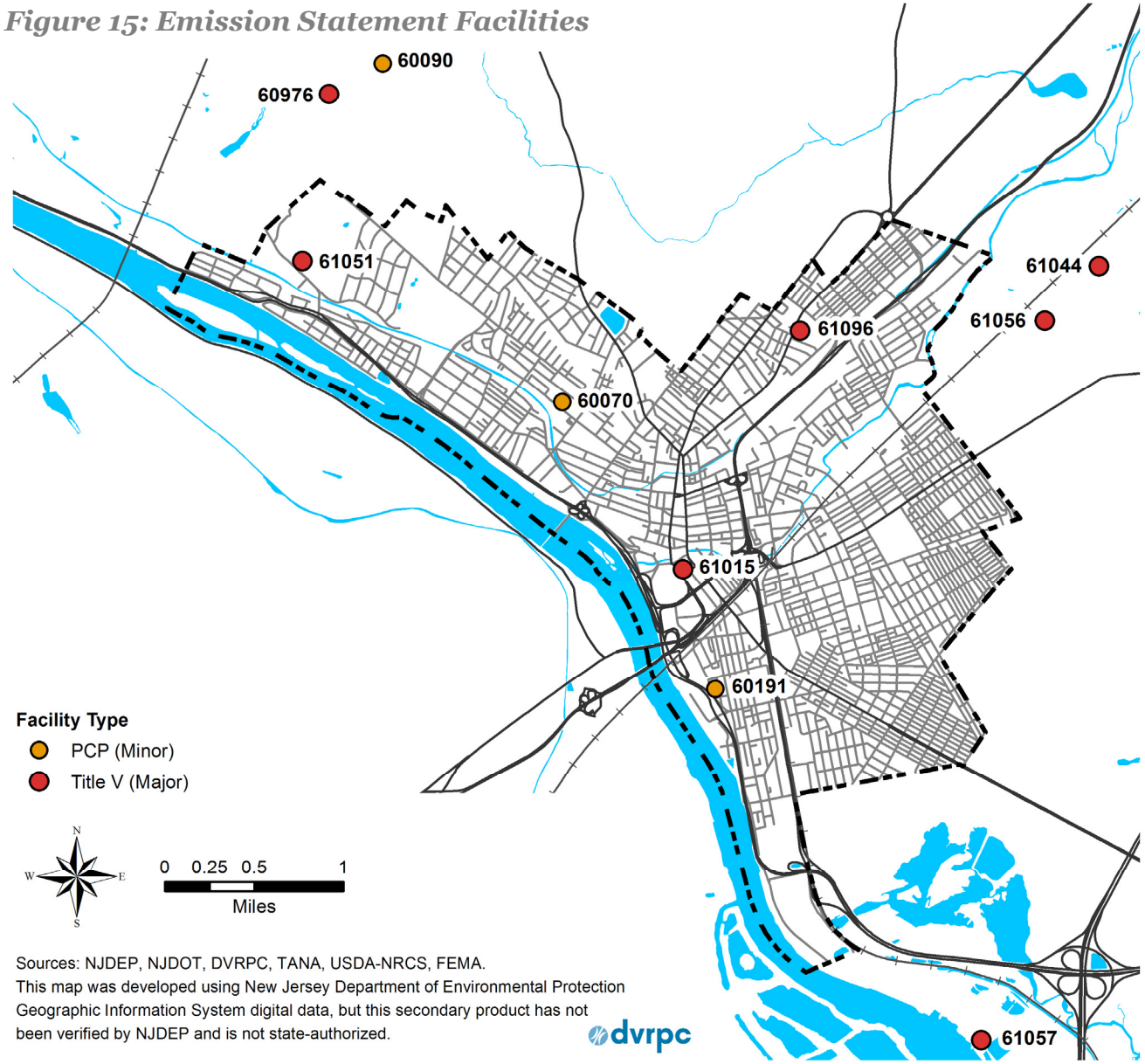
Source: NJDEP, 2013

Figure 14 depicts the AQI between 1980 and 2012. In 2012, the Trenton-Ewing CBSA reported 264 Good (green) and 91 Moderate (yellow) days, 11 days that were Unhealthy for Sensitive Groups (orange), and zero Unhealthy, Very Unhealthy, or Hazardous (red, purple, and maroon) days. The maximum AQI was 119, and the median was 41.

Point Sources of Air Pollution

Under the CAA, the EPA limits the amount of other air pollutants and toxins that are emitted by point sources, such as chemical plants, industrial factories, power plants, and steel mills. NJDEP enacted the Emission Statement Rule in 1992, requiring certain sites that have an air quality permit to report specific air contaminants. These include the six criteria pollutants in addition to ammonia (NH_3), methane (CH_4), total suspended particulate matter (TSP), VOC, and many other toxic air pollutants (TAPs). Although it does not affect respiration directly, carbon dioxide (CO_2) is considered an air pollutant due to its relationship to climate change. Emission Statement reporting applies if a facility has a potential to emit on an annual basis five tons or greater Pb, ten tons or greater VOC, 25 tons or greater NOx,

Figure 15: Emission Statement Facilities



or 100 tons or greater of CO, SO_2, PM_{10}, $PM_{2.5}$, TSP, or NH_3.

There were five facilities in Trenton that released emission statements in 2012. These statements are listed in the table below, along with five facilities located just outside the city borders. The two facilities with the most significant impact on local air quality are two energy generating stations: the Veolia Energy plant and the PSEG plant in Hamilton Township. Emissions are reported in pounds per day (PPD) and tons per year (TPY).

Table 14: 2012 Emissions Statements

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 60070 Capital Health System @ Mercer 446 Bellevue Ave, Trenton	CO	34.730	2.300	21.810
	NOx (Total)	128.880	1.300	
	VOC (Total)	9.850	0.080	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 60090 NJDOT Trenton Headquarters Complex 1035 Parkway Ave, Ewing	CO	4.280	4.920	53.170
	NOx (Total)	6.080	2.330	
	VOC (Total)	19.790	3.360	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61015 Veolia Energy Trenton, L.P. 320 South Warren St, Trenton	Acetaldehyde		0.029	
	Acrolein		0.018	
	Ammonia		1.120	
	Arsenic compounds		0.000	
	Benzene		0.017	
	Butadiene (1,3-)		0.001	
	CO	1.300	0.230	1.390
	CO_2		42,280.000	
	Ethylene dibromide		0.000	
	Formaldehyde		0.045	

PI: 61015 (cont.)	Methane		0.920	
	NOx (Total)	215.300	44.720	
	Pb		0.000	
	PM_{10} (Total)		1.290	
	$PM_{2.5}$ (Total)		1.290	
	SO_2		0.250	
	TSP		0.390	
	VOC (Total)	0.490	0.061	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61044 Trane U.S. Inc. 2231 East State St, Hamilton	Ammonia		0.120	
	CO	32.210	2.270	45.920
	CO_2		3,265.600	
	Methane		0.062	
	NOx (Total)	15.740	2.750	
	Pb		0.000	
	PM_{10} (Total)		0.200	
	$PM_{2.5}$ (Total)		0.200	
	SO_2		0.010	
	TSP		0.200	
	VOC (Total)	668.370	82.360	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61051 Trenton Psychiatric Hospital New Jersey Dept of Human Services, Trenton	Ammonia		0.230	
	CO	0.940	0.560	5.520
	CO_2		8,460.000	
	Methane		0.170	

PI: 61051 (cont.)	NOx (Total)	12.420	3.070	
	Pb		0.000	
	PM_{10} (Total)		0.570	
	$PM_{2.5}$ (Total)		0.560	
	SO_2		0.290	
	TSP		0.600	
	VOC (Total)	3.350	0.700	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61056 Congoleum Corp 1945 E State St, Hamilton	Ammonia		0.500	
	CO	21.600	2.050	46.120
	CO_2		2,920.000	
	Methane		0.070	
	NOx (Total)	25.710	2.480	
	Pb		0.000	
	PM_{10} (Total)		18.800	
	$PM_{2.5}$ (Total)		9.470	
	SO_2		0.010	
	TSP		18.800	
	VOC (Total)	83.760	5.930	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 60191 Kayline Processing, Inc. 31 Coates St, Trenton	Ammonia		0.000	
	CO	0.370	0.080	0.610
	CO_2		130.000	
	Methane		0.000	
	NOx (Total)	0.450	0.100	

PI: 60191 (cont.)	Pb		0.000	
	PM_{10} (Total)		0.010	
	$PM_{2.5}$ (Total)		0.000	
	SO_2		0.000	
	TSP		0.010	
	VOC (Total)	13.770	2.920	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 60976 Homasote Co Off Lower Ferry Road, West Trenton	Acrolein		0.000	
	Ammonia		0.040	
	Arsenic compounds		0.000	
	Chromium compounds		0.000	
	CO	221.710	41.080	214.270
	CO_2		10,770.000	
	Formaldehyde		0.011	
	Methane		0.200	
	NOx (Total)	20.670	5.000	
	Pb		0.000	
	PM_{10} (Total)		11.780	
	$PM_{2.5}$ (Total)		11.380	
	Polycyclic organic matter		0.000	
	SO_2		0.180	
	TSP		36.000	
	VOC (Total)	28.680	5.330	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61096 Capital Health Systems at Fuld Campus 750 Brunswick Ave, Trenton	Ammonia		0.020	
	CO	36.480	2.900	55.900
	CO_2		3,710.000	
	Methane		0.070	
	NOx (Total)	82.230	4.470	
	Pb		0.000	
	PM_{10} (Total)		0.350	
	$PM_{2.5}$ (Total)		0.350	
	SO_2		0.070	
	TSP		0.350	
	VOC (Total)	5.800	0.290	

Facility	Pollutant Name	Ozone - PPD	TPY	CO - PPD
PI: 61057 PSEG Fossil LLC Mercer Generating Station Lamberton Rd, Hamilton	Acrolein		0.020	
	Ammonia		2.930	
	Arsenic compounds		0.000	
	Benzene		0.091	
	Beryllium compounds		0.000	
	Butadiene (1,3-)		0.000	
	Cadmium compounds		0.001	
	Chloroform		0.004	
	CO	1,215.790	29.810	602.750
	CO_2		351,880.000	
	Dioxins		0.000	
	Ethylene dibromide		0.000	
	Formaldehyde		0.080	

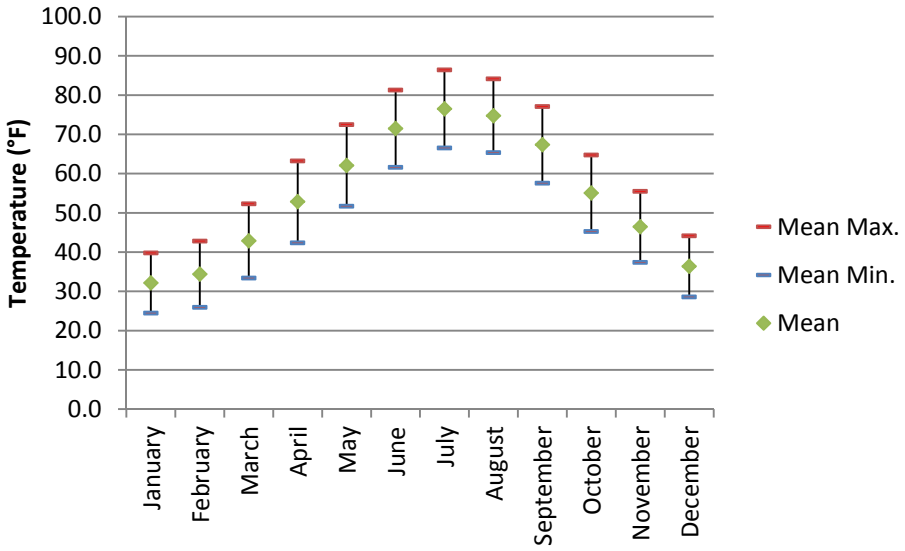
PI: 61057 (cont.)	Hexachlorobenzene		0.000	
	Hydrogen chloride		0.489	
	Manganese compounds		0.004	
	Mercury compounds		0.000	
	Methane		44.960	
	Nickel compounds		0.005	
	NOx (Total)	9,490.400	228.360	
	Pb		0.000	
	PM_{10} (Total)		58.725	
	$PM_{2.5}$ (Total)		58.725	
	Polycyclic organic matter		0.002	
	Quinoline		0.000	
	SO_2		159.830	
	Tetrachloroethylene		0.003	
	Trichloroethane (1,1,1)		0.001	
	TSP		16.438	
	VOC (Total)	795.170	39.430	

Source: NJDEP, 2013

Indoor Air Quality and Public Health

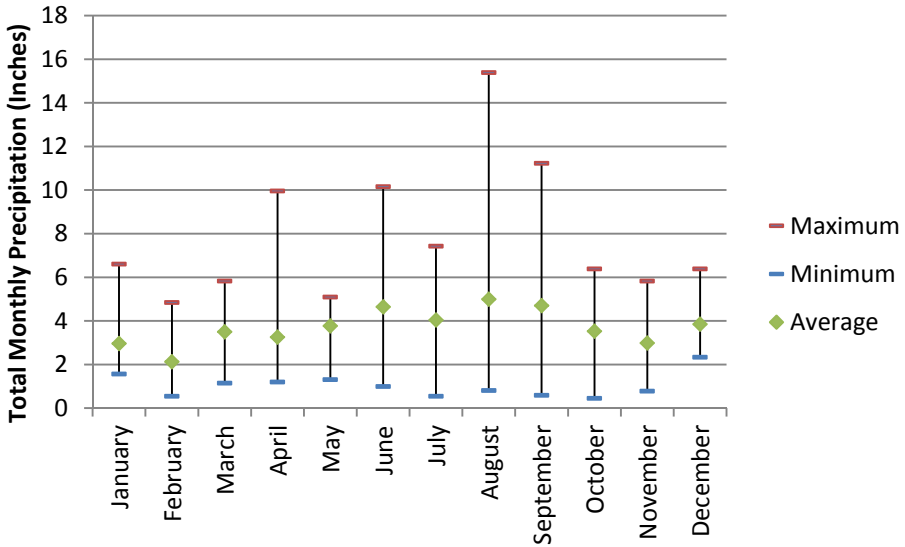
Although the Air Quality Index monitors outdoor air quality, and the regulated facilities indicate sources of outdoor air quality pollution, indoor air quality can pose an even more serious risk to public health. Not only do people spend most of their days indoors, but indoor air quality can be much worse than that of the outdoor environment. This problem can be magnified during the winter months when closed windows and doors limit air circulation. Potential sources of indoor air pollution can include heating sources such as oil, gas, kerosene, coal, wood; building materials and furnishings that may contain asbestos, formaldehyde, or other chemicals; household cleaning supplies; or outdoor sources such as pesticides or radon. Many reports and studies indicate that low-income, minority, tribal, and indigenous communities may be disproportionately impacted by indoor asthma triggers, secondhand smoke, mold, radon, and other indoor pollutants.

Figure 16: Monthly Temperature, 1999–2013



Source: NCDC, 2014

Figure 17: Monthly Precipitation, 1999–2013



Source: NCDC, 2014

Climate

Climate is a measure of long-term weather patterns and takes into account temperature, precipitation, humidity, atmospheric pressure, wind, and other meteorological variables.

Temperature and precipitation for Trenton is monitored by the National Climatic Data Center (NCDC) of the National Oceanic & Atmospheric Administration (NOAA) at the Trenton-Mercer Airport (TTN) climate station. Although the data record for this station began in 1945, complete data is only available from 1999 to the present.

Based on recorded data from 1999–2013, the mean annual temperature for Trenton is 54.4°F. January is the coldest month with a mean temperature of 32.2°F, and July is the hottest month with a mean temperature of 76.5°F.

The average monthly precipitation in Trenton ranges between two and five inches. The rainiest month on record was August 2011, when 15.4 inches of precipitation fell. The driest month on record was October 2001, when just 0.45 inches of precipitation fell.

There is vast scientific consensus that the world's climate is changing, resulting in increased average temperatures, sea level rise, and other ecosystem changes. A Climate Action Plan was developed for the City of Trenton in 2010, which addresses climate change caused by increased greenhouse gas emissions. This strategic plan identifies ways the City can maximize scarce resources to achieve the greatest possible emission reductions. Priority actions identified in the plan include enacting a municipal green building policy and energy audit policy, converting traffic signals and public lighting to LED, encouraging sustainable landscaping practices, preserving the tree canopy, improving vehicle fleet efficiency, and other energy and water efficiency actions.

City of Trenton Natural Resource Inventory

Publication Number: 14043

Date Published: August 2014

Geographic Area Covered:

City of Trenton, Mercer County, New Jersey

Key Words:

Air quality, Assunpink Creek, climate, Delaware & Raritan Canal State Park, Delaware River, drinking water, endangered species, environmental issues, floodplains, forests, geology, habitat, known contaminated sites, Landscape Project, master planning, natural resource inventory, natural vegetation, New Jersey, open space, population, soils, steep slopes, topography, trails, water quality, watersheds, wetlands.

Abstract:

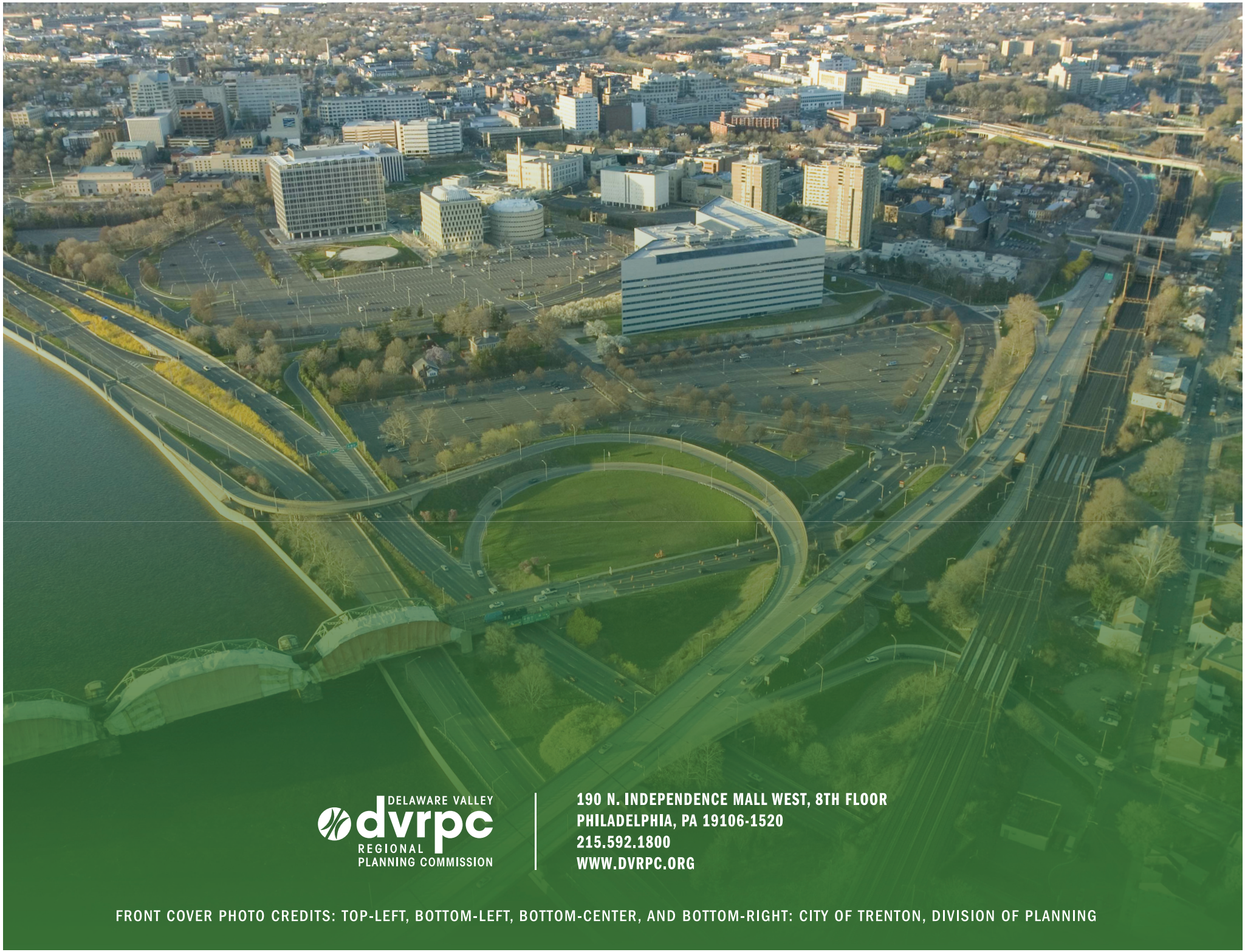
This publication documents the natural resources of the City of Trenton, Mercer County, New Jersey. There are descriptions, tables, and maps of: land use; soils; surface waters, including watersheds, streams, wetlands, and floodplains; land use/land cover and natural vegetation; threatened and endangered species; known contaminated sites; air quality; and climate.

Staff Contact:

Amy K. Miller, AICP/PP
Environmental Planner
(215) 238-2930
amiller@dvrpc.org

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

190 N. Independence Mall West, 8th Floor
Philadelphia, PA 19106-1520
Phone: (215) 592-1800
Fax: (215) 592-9125
www.dvrpc.org



DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

190 N. INDEPENDENCE MALL WEST, 8TH FLOOR
PHILADELPHIA, PA 19106-1520
215.592.1800
WWW.DVRPC.ORG

FRONT COVER PHOTO CREDITS: TOP-LEFT, BOTTOM-LEFT, BOTTOM-CENTER, AND BOTTOM-RIGHT: CITY OF TRENTON, DIVISION OF PLANNING