CLEAN WATER

Water is the lifeblood of our society—we rely on it for drinking, recreation, and to meet our most essential needs—and clean water is a basic human right.

We all must continue to work to protect the waters that our families, communities, and economy depend on.

The water we all rely on faces threats from every corner. Pollution from manufacturing, old industrial sites, and stormwater runoff can contaminate waterways that we rely on for recreational use and drinking water sources. Aging infrastructure and lead pipes can contaminate drinking water coming into our homes, schools, and businesses.

Ensure Safe, Plentiful, and Affordable Drinking Water

New Jersey's drinking water comes from a variety of sources, including surface-water bodies and aquifers. The state's 9.3 million residents, $800 billion economy, and diverse ecosystems depend on a clean, secure, and resilient water supply.

While the sources of drinking water may be different, the threats to the quantity and quality of the water are the same, and are negatively affected by land-use decisions and the resulting polluted runoff. The New Jersey Department of Environmental Protection completed an updated New Jersey State Water Supply Plan in 2024. In addition to reflecting the most current and best-available science, the 2024 plan also provided the first assessment of water supply challenges resulting from climate change. Unfortunately, the state issued a statewide Drought Watch in the fall of 2024 due to significantly below-average rainfall, resulting in diminished streamflow, reservoir, and groundwater levels. This ongoing drought has underscored the need for effective drought management.

Prior to widespread development, water would purify through natural filtration by traveling through soil particles and organic matter, then slowly flowing into waterways over hours and days after a rain event. Now that New Jersey's land area is covered with impervious surfaces, water rushes straight toward streams and rivers without being purified. Impervious surfaces change how rain recharges aquifers, reducing that recharge and/or carrying with it various levels of pollutants picked up from streets, parking lots, and lawns that can contaminate drinking water supplies. Not only does this cause flooding and increased pollution, but it also erodes the streambanks and riparian areas along waterways. Additionally, this rush of water will continue to be exacerbated from the effects of climate change. New Jersey now receives more of its rainfall in heavy downpours versus longer, more gentle rains. The state also receives more rain annually.

PRIMARY CONCERNS

- Rapidly changing climate, rising sea levels, warmer temperatures, and unprecedented precipitation variability pose water management risks.
- New Jersey has an antiquated water supply and treatment infrastructure. The maintenance, repair, and replacement of this infrastructure is not adequately funded.
- Harmful algal blooms can endanger water supplies.
- The growth of consumptive water use and shifts in residential populations, energy production, and industrial base make projects founded on historic trends more difficult.
- In many cases, rates will need to increase to provide revenue for the improvement and maintenance of water infrastructure. Affordability for consumers will be an ongoing concern in many areas of the state.
- Improvements are needed to the Private Well Test Act to encourage more frequent testing and treatment of contamination.
- Current NJDEP regulations only require that agricultural withdrawals under agricultural water-usage certifications be documented and reported.

POLICY RECOMMENDATIONS

- Protect water sources by addressing discharges to groundwater and surface water, and by providing for stronger protections for riparian zones. This should include stepping up the acquisition of riparian zone lands, which act as filters of pollution and provide protection for drinking water sources.
- Implement the updated 2024 Statewide Water Supply Plan's recommendations and action items to ensure sustainable water supplies, and require regular public updates via the New Jersey Water Supply Advisory Council meetings. Additionally:
  - ✓ Link the planning and analysis in the plan to permit considerations.
  - ✓ Ensure water permits are linked to drought-management plans, requiring permit holders to adhere to adjusted usage limits during drought periods, and prioritize essential uses (e.g., drinking water, agriculture, critical infrastructure) during drought conditions.
  - ✓ Promote efficient water use and encourage water conservation.
- Adopt a "One Water" approach whereby all water is managed in an integrated, inclusive, and sustainable manner to improve the overall, long-term benefits of all types of water resources. For example, better integrate impacts to water quality in land-use permits (e.g., building in wetland transition or riparian areas, filling wetlands).
- Create and fund a statewide low-income customer assistance program. Authorize all water utilities to create their own customer assistance programs.
  - ✓ Permit water utilities to reduce water, sewer, and stormwater fees and other charges for low-income persons (see Senate Bill No. 286 of the 2024-2025 legislative session).
  - ✓ Establish the New Jersey Low Income Household Water Assistance Program to provide both water service and water-bill payment assistance to certain low-income households (see Senate Bill No. 3888 of the 2024-2025 legislative session).
- Update the Private Well Testing Act
  - ✓ Require landlords to treat drinking water from contaminated wells, as opposed to merely reporting on the test results.
  - ✓ Provide low-cost testing to private residences to encourage the testing of wells absent a change in ownership.
  - ✓ Utilize the sale of homes and test results for outreach and targeted testing of adjacent properties.
- Provide clear legislative authority to state agencies to require more effective and cost-effective utility management, including requiring NJDEP to enforce the provisions of the Water Quality Accountability Act. Similarly, provide clear legislative authority to the New Jersey Department of Community Affairs to review water-utility budgets to ensure that they are adequate for implementing asset management plans.
- Continue the analysis of agricultural and landscaping water use. Gather more data on actual use and whether irrigation water is returned to the resources, or if there are consumptive losses. Implement strategies to reduce excessive outdoor residential and commercial water use, and promote lowest-quality water for the intended use.
- Address harmful algal blooms by doing the following:
  - ✓ Establish a Clean Lakes program that has dedicated funding to support lake restoration projects that address nutrient load, water-quality monitoring, and pollution studies. Require nature-based restoration projects, including restoring wetlands and riparian buffers and adding green infrastructure.
  - ✓ Enhance technical assistance and coordination between state agencies, municipalities, research institutions, and nonprofits to address harmful algal blooms, prioritizing both lakes with high ecological value to prevent degradation, and those used for recreational purposes, especially in overburdened communities.
  - ✓ Reduce nutrient runoff into lakes through stronger stormwater management policies and stormwater utilities, the enforcement of regulations on fertilizer use, the replacement of failing septic systems, and the promotion of land-use and lawn-care strategies that minimize impacts to lakes.

Address Unregulated Contaminants in Drinking Water

Over the past several decades, human health protection from chemical contaminants in drinking water has been accomplished by the development of chemical-specific standards or a "one-at-a-time" approach. This approach alone will not address multiple contaminants in drinking water, as there is little or no information on the health effects, occurrence, or best-available treatments to remove classes of chemicals.

Establishing health-based Maximum Contaminant Levels for unregulated compounds detected throughout the country's waters is challenging for several reasons: the large numbers of compounds, the fact that many compounds are breakdown products manufactured unintentionally (and thus are not readily available as test materials), and the time and expense associated with developing the animal-based toxicological data that the studies require. States may regulate chemicals at more protective levels than the federal government or can set standards for chemicals that the federal government does not regulate. This makes sense because some contaminants are found in certain areas of the country and not in others. New Jersey has been a leader in setting drinking water standards for emerging chemicals of concern to the state. For example, in the 1990s, New Jersey identified a contaminant in the Toms River drinking water supply. It took over eight years and $5 million to review the appropriate science needed to establish a chemical-specific drinking water standard for styrene-acrylonitrile trimer in New Jersey.

The process of obtaining and evaluating the information needed to develop a health-based regulatory standard for a given contaminant is costly and time consuming—it took over a decade to consider adopting drinking water standards for per- and polyfluoroalkyl substances (PFAS), a class of chemicals that has been detected throughout the country in recent years. When first detected, there were only two PFAS of concern. Today, there are over 4,700 individual chemicals in the class, according to the National Institutes of Health, yet the development of health-based standards for individual chemicals takes years. Additionally, the regulatory criteria to justify the development of new chemical-specific standards are very stringent. Although this chemical-specific approach will continue to be useful for addressing some emerging contaminants, it does not represent a sustainable approach for addressing low-level contamination with multiple chemicals that are now known to occur in many rivers, groundwater sources, and finished drinking water in the United States. Today, it is PFAS. What will it be in a year or a decade?

Perhaps a focus on preventing the contamination of water sources and reducing human and ecological exposures would better protect human health compared to focusing on determining exact toxicities of chemicals in whole-animal studies and removing just those chemicals from drinking water. Considering that the treatment necessary to remove some of these chemicals can be expensive or simply not feasible, an approach that prevents the chemicals' introduction into water sources would be more effective.

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manmade chemicals that includes PFOA, PFOS, GenX, and many other chemicals.

PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals.

Both classes of chemicals are very persistent in the environment and in the human body—that is, they do not break down and can accumulate over time. Additionally, there is evidence that exposure to PFAS can lead to adverse human health effects.

The federal Toxic Substances Control Act regulates the introduction of new and existing chemicals. A major limitation of the Toxic Substances Control Act is that it does not adequately address chemicals already being used extensively by industry. Additionally, it does not address chemicals in food, drugs, cosmetics, and pesticides. In fact, the environmental impact of persistent chemicals such as PFAS is not included at all in Toxic Substances Control Act's regulations, and the emerging contaminant policy is fragmented at best. The implementation of all aspects of the Toxic Substances Control Act for existing chemicals has been incomplete and difficult. To control chemicals at the manufacturing stage in the United States, more incentives for manufacturers to consider safer alternatives, and more toxicity information on existing and new chemicals, are needed.

PRIMARY CONCERN

- Per- and polyfluoroalkyl substances are prevalent in New Jersey's environment and are impacting water resources.

POLICY RECOMMENDATIONS

- Regulate PFOAs as a class (as opposed to regulating individual chemicals in drinking water standards) and establish a clearer connection between groundwater and surface water regulations.
- Update the Maximum Contaminant Levels to standards set by the US Environmental Protection Agency in 2024.
- Investigate the use of chemical-mixture screening by the federal and/or state governments to assess toxicity.
- Explore the use of water treatment–based standards to complement individual chemical-by-chemical standards. Fund large pilot projects to evaluate the effectiveness of large-scale contaminant removal by carbon (or other) treatment.
- Regulate new chemicals at the manufacturing stage. Revise the federal Toxic Substances Control Act to require manufacturers to develop toxicity information on chemicals' effects before use.
- Track PFAS reporting statewide to better understand trends, and make this data publicly available.

Improve Drinking Water and Wastewater Infrastructure and Management

Every day each of us depends on clean drinking water, wastewater treatment, and stormwater management. These "invisible" essential services are foundational to the environment, public health, and economic prosperity. But, despite the many well-run water infrastructure systems in New Jersey and across the country, some are inadequate and all face multiple challenges, such as unresolved legacy issues concerning lead and combined sewers, new regulatory requirements for emerging contaminants, growing threats from climate change, algae-infested lakes and ponds, and age-related degradation. Low-income residents and residents of color are more likely to face the impacts of inadequate water infrastructure. Many low-income customers already find water and sewer bills unaffordable, which can impede rate increases and capital investment.

Combined sewer systems are shared underground pipe networks that carry both sewage from homes and businesses and stormwater from streets and land to a central treatment system before being discharged into a waterway. During heavy precipitation, those pipes have to handle the extra water as well. When pipes get too full, the sewage-contaminated, untreated water and debris overflow into waterways. Combined sewer systems are remnants of the country's early infrastructure and are still found in 21 municipalities in New Jersey. Communities with combined sewer overflow outfalls are disproportionately low-income and communities of color. These communities with combined sewer overflows have submitted draft plans to NJDEP specifying the types of upgrades that will be built to eliminate combined sewer overflows, including gray infrastructure, underground tunnels, sewage plant expansions, and green infrastructure. Together, the combined plans would cost $2.6 billion and take 20 to 40 years to complete.

PRIMARY CONCERNS

- New Jersey is home to more than 200 wastewater treatment plants, nearly 600 drinking water systems, and thousands of miles of water and sewer pipe leading to a fragmentation. Many drinking water systems are tiny: the 314 smallest systems serve fewer than 3,000 customers.
- New Jersey has over 19,000 miles of rivers and streams; nearly 48,000 acres of lakes, ponds, and reservoirs; approximately 948,000 acres of freshwater and tidal wetlands; and 127 miles of ocean coast. All of these are at risk from pollution from aging and inadequate water infrastructure that can make the water unsafe for fishing, swimming, boating, drinking, and other uses protected by state and federal law.
- It is estimated that 130 million gallons of treated, potable water are wasted across the state each day due to cracked water mains, leaks, and water loss. Jersey Water Works estimates that infrastructure repairs alone could save 50 million of those gallons per day—an amount equal to the daily water usage of about 700,000 New Jersey residents, or a population 2.5 times the size of Newark—and pay for themselves through increased revenues and decreased costs.
- The EPA estimates that the state's drinking water, wastewater, and stormwater systems need $30 billion of investment over the next 20 years. While the Bipartisan Infrastructure Law provided a surge of federal funding for water infrastructure improvements, that funding is now gone, leaving future funding up in the air.

According to the Jersey Water Works collaborative, there are three priority solutions for water infrastructure: ADEQUATE FUNDING, ROBUST ASSET MANAGEMENT and STAKEHOLDER ENGAGEMENT

Source: Jersey Water Works

POLICY RECOMMENDATIONS

- Provide new state and federal funding for water infrastructure, especially in environmental justice communities, and fully fund the State Revolving Fund's Water Infrastructure budget (implemented through the Infrastructure Bank).
- Ensure the upkeep of effective water systems by authorizing NJDEP to enforce the Water Quality Accountability Act, and improve public reporting. Enact a similar law for wastewater systems.
- Continue to push forward the implementation of NJDEP's Combined Sewer Overflow permits and Long-Term Control Plans. Require NJDEP to do the following:
  - ✓ Ensure equitable financing of these plans, whereby costs are shared between sewage treatment utilities and municipalities to reduce impacts on ratepayers
  - ✓ Require combined sewer overflow permit holders to set bold, clear, and immediate targets for earlier implementation of green infrastructure projects
  - ✓ Use the most recent climate change data and projections in the selection, implementation, and evaluation of combined sewer overflow plans
  - ✓ Adopt new NJDEP combined sewer overflow permits that require the permit holders to continue public outreach on the projects that have been selected in the LTCP
- Mandate an appropriate balance of green and gray infrastructure in water-quality regulatory or permitting mechanisms, including the remaining combined sewer overflow permits from NJDEP.
- Replenish the water workforce and create pathways to job and career opportunities for local residents through training and apprenticeship programs, and through competitive wages.
- Empower residents to participate actively and influence decision-making regarding water, sewer, and stormwater systems. Ensure that members of utility boards and commissions are well trained and representative of the communities they serve.
- Provide incentives for small water systems to consolidate and/or share services.
- Charge a water advisory council both with calculating the capital funding gap for water infrastructure and recommending ways to fill it, including the proposal of state budget line items.
- Make data on the state's enormous water infrastructure sector accessible to build public support for upgrades. As of this year, residents can learn about their drinking water and wastewater systems, as well as statewide performance figures and trends, on Jersey WaterCheck.
- Support the establishment of the New Jersey Water Infrastructure Center at an institution of higher learning to support research, technology development, and innovation in the water sector. (See Senate Bill No. 998 of the 2024–2025 legislative session.)
- Continue to support municipalities and counties examining the feasibility of creating stormwater utilities, including regional utilities, through permanent technical assistance and funding provided by NJDEP.

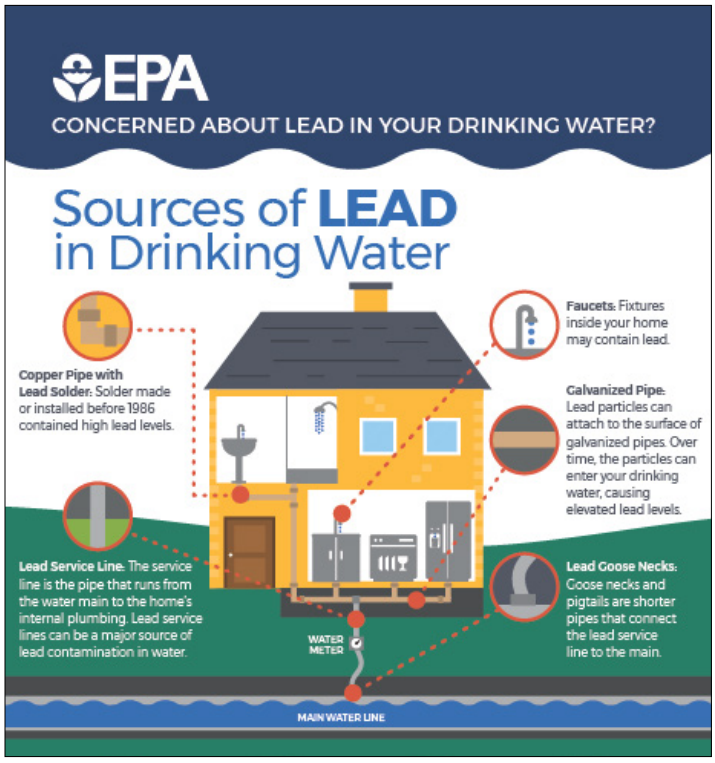
What is Grey Infrastructure and Green Infrastructure?

Grey infrastructure refers to structures such as pipes, treatment plants, storage basins, or other constructed structures. Green infrastructure refers to natural systems used to manage stormwater, such as wetlands, rain gardens, or other vegetation or permeable surfaces.

Eliminate the Risk of Lead in Drinking Water

Lead in pipes and plumbing continues to leach into drinking water, even though drinking water from treatment plants is virtually lead-free. There is no safe level of lead exposure. Lead threatens human health, causing permanent brain damage in children who will face lifelong learning and behavioral issues. Lower-income children and children of color are at greatest risk of lead exposure. Although paint is the leading source of lead exposure, water is also a prominent source, especially for infants fed with formula made with tap water that contains lead.

The best estimates suggest that across New Jersey there are 350,000 lead service lines (LSLs), the hose-sized pipes that connect water mains to homes. In addition, many homes, apartments, schools, and childcare centers have internal plumbing containing lead. In 2021, New Jersey enacted a state law that established that local water utilities must develop an inventory of service lines and prepare a plan to replace all lead service lines by 2031.



Source: United States Environmental Protection Agency

NJDEP estimates that the cost for LSL replacement is between $2.1 billion and $3.2 billion statewide. Most New Jersey water customers are served by utilities that can afford to replace LSLs over a 10-year period with modest rate increases. They must be authorized to use rate revenues for this purpose.

In order to minimize lead leaching, state regulations and training must be strengthened to ensure more effective corrosion control at water treatment plants. Proper use of in-home filters and flushing offers additional layers of protection that community education efforts can promote, along with the gradual replacement of plumbing fixtures.

Awareness and transparency are critical. Short-term measures—such as online maps showing the number and location of LSLs, statewide LSL inventories, improved data accessibility, and the disclosure of LSLs to homebuyers and renters—are needed to get the state to a lead-free water future in the long term. (See Lead-Free NJ for additional information.)

PRIMARY CONCERNS

- According to the New Jersey Department of Health, from July 1, 2021, to June 30, 2022, some 2,848 New Jersey children were found to have elevated blood lead levels.
- Lead poisoning in New Jersey disproportionately impacts children living in predominantly Black, Brown, and low-income communities. The New Jersey county with the highest percentage of children younger than six with an elevated blood lead level is Cumberland County, which is also the county with the highest percentage of persons in poverty.
- New Jersey has an estimated 350,000 LSLs, which are responsible for 50 to 75 percent of lead in the state's water.
- Internal plumbing in older buildings, homes, schools, and childcare facilities also contains lead, which can be managed by water utilities that use corrosion-control measures and residents who flush and filter water.

POLICY RECOMMENDATIONS

- Dedicate state funding to replace lead service lines.
- Support legislation and programs that require the replacement of lead service lines at no cost to customers statewide.
- Enact legislation that requires the disclosure to renters of the hazards associated with lead in drinking water. See Assembly Bill No. 2929 / Senate Bill No. 1034 of the 2024–2025 legislative session, which would both require the disclosure of the hazards associated with lead drinking water to tenants of residential units, and prohibit landlords from obstructing the replacement of lead service lines.
- Adopt a new NJDEP Lead and Copper Rule that would protect public health through improved water sampling, quick public notification, and interim protections, corrosion control, and public education.
- Ensure safe drinking water in childcare centers and schools by providing support for water filters. See Assembly Bill No. 2938 / Senate Bill No. 1050 of the 2024–2025 legislative session, which requires landlords of certain properties that provide childcare services, but who refuse lead service line replacements, to install and maintain water filters.
- Direct $100 million in already-approved bond proceeds through the New Jersey Department of Education to school districts with the most lead poisoning. Only $6.6 million has been spent in these existing funds to remediate lead in drinking water in schools.

Restore and Enhance New Jersey's Waters

In 1977, New Jersey set out to restore, enhance, and maintain more than 19,000 miles of rivers and streams; almost 50,000 acres of lakes, ponds and reservoirs; plus 950,000 acres of freshwater and tidal wetlands, 650 square miles of estuaries, and 127 miles of coastline. New Jersey relies on these natural resources for tourism, recreation, drinking water, and agriculture, as well as for habitats for fish, wildlife, and plants. While New Jersey has made strides in reaching the goals of restoring and enhancing our waterways, much more work lies ahead.

New Jersey has a multitude of statutes and regulations pertaining to activities in and around waterways. These statutes include the Federal Water Pollution Control Act (Clean Water Act), New Jersey's Water Pollution Control Act, the Flood Hazard Area Control Act, the Freshwater Wetlands Protection Act, the Wetlands Act of 1970, and the Water Quality Planning Act, among others.

The Flood Hazard Area Control Act and the Freshwater Wetlands Protection Act regulate activities in and around our waterways and wetlands. Activities are regulated through general permits, permits by rule, permits by certification, and individual permits. One aspect of these regulations is the creation of buffers (e.g., riparian zones for waterways and transition areas for wetlands) between these environmental features and upland activities. The width of these buffers depends on the classification of the waterway or wetland. Buffers not only protect streams and wetlands from the effects of development, but also provide protection to development from flooding, which will only increase with the increased precipitation and storm intensity from climate change. The state's regulatory scheme allows too many opportunities to invade these buffers without demonstrating that the activity will not negatively impact the regulated feature. Furthermore, New Jersey's rules do not consider the health of the waterway before allowing these impacts. The rules also do not require or encourage the restoration of disturbed or impacted buffers. Thus, more urban areas where historical development occurred right up to the edge of the waterway have not been restored to include natural shorelines.

Another method of protecting waterways is through classification. For waterways, streams are classified as Freshwater 1 (FW1) or Freshwater (FW2). The FW2 waters are further classified as either nontrout, trout maintenance, trout production, or Category One (c1). There are also the Pinelands Waters and Highlands waters classifications. Estuary waters are similarly classified as SE1, SE2, SE3, and SC. The classification of

these waters then results in different water-quality standards and designated uses. For freshwater streams, the classification results in different buffer widths. Freshwater wetlands are also classified as ordinary value classifications, intermediate value classification, or extraordinary value classification wetlands. The various classifications result in different buffer widths and different levels of protection. In many instances, more urban waterways have fewer protections because of their classifications, resulting in less stringent water-quality standards and smaller buffers.

For our impaired waters, the Clean Water Act requires the New Jersey Department of Environmental Protection to develop a Total Maximum Daily Load for a particular portion of the stream, which is in essence a pollution budget. In creating a TMDL, NJDEP determines how much of a pollutant is allowable in a body of water for that waterway to still meet the appropriate water-pollutant criteria. This pollutant amount is then allocated between the different sources of pollution: point sources (or direct dischargers) and nonpoint sources. Examples of point sources include dischargers with permits for water pollution

discharge. Examples of nonpoint sources include stormwater or agriculture runoff. These budgets are then supposed to be implemented by the point source discharges. The nonpoint sources, as they are not directly regulated, are targeted by various grants and other voluntary actions. There are many TMDLs currently in place, but they are not necessarily fully acted upon.

PRIMARY CONCERNS

- As reported in NJ Spotlight News, many of New Jersey's waterways are polluted from land-use practices and the resulting stormwater pollution.
- In spite of the protections afforded to wetlands, we continue to lose wetlands to development. Wetlands not lost are also being degraded.
- The state continues to lose forested areas, which provide numerous benefits. These benefits include absorbing stormwater runoff, providing habitats for wildlife, and providing temperature regulation and nutrients to waterways. Forests are also important for carbon sequestration.
- New Jersey's waterways continue to be impaired and New Jersey's regulatory program is geared to minimizing the damage, not avoiding it. Also, recreational uses are not directly considered when the state makes decisions related to pollution discharge permitting.
- Land-use regulatory decisions are not incorporating water-quality data or TMDLs.
- Gaps remain in the protection of small headwater streams—the sources of all of the state's surface waters—from becoming parking lots and storm drain outlets.

POLICY RECOMMENDATIONS

- Protect headwater streams with more policies through the Freshwater Wetland and Flood Hazard Area Control Act rules to recognize and preserve headwaters with riparian zones. For example, the state could update Category 1 stream designations and improve protections of wetlands classified as "ordinary."
- Integrate water-quality standards for surface water, water impairments, and TMDLs into the land-use permitting process.
- Recognize that discharges to groundwater may result in direct discharges to surface water. The most protective discharge standard must be utilized in determining discharges.
- Revise Flood Hazard Area Control Act and Freshwater Wetland rules to minimize the various permits (e.g., permit by rule, permit by certification, and general permit) where encroachments into the buffers (e.g., riparian zones or transition areas) are allowed. Require stricter analysis and review in environmental justice communities and waters with TMDLs.
- Ensure that recreational waters are not degraded when permitting discharges, and support attainment for all public waterways to be fishable and swimmable, no matter their location.
- Protect the state's five National Wild and Scenic Rivers, and its only National Water trail, by granting them the highest level of protection—that is, as Outstanding National Resource waters—and support additional Wild and Scenic River designations.
- Require municipalities to implement the Waste Load Allocations in approved TMDLs.
- Ensure that regulations related to restoring shorelines or permitting living shorelines treat all of New Jersey's shores equally; this will open up opportunities to restore urban shorelines.
- Eliminate the Residential Site Improvement Standards' control over stormwater management.
- Support the implementation of stormwater utilities at the local level to allow the collection of fees based on the amount of stormwater runoff that a property generates from its impervious cover. The revenue from these fees should then be dedicated to stormwater management.

Protect the Delaware River Watershed

The Delaware River Watershed provides drinking water to more than 13 million people in the region, including several million living in New Jersey. It is unique in providing drinking water to two of the five largest metropolitan centers in the country: New York City and Philadelphia. Two major drinking water sources for New Jersey are also partially located in the watershed: the Highlands (in the north) and the Kirkwood-Cohansey Aquifer in the Pinelands National Reserve (in the south).

The watershed supports more than $25 billion in annual economic activity, including recreation, ecotourism, hunting and fishing, water supply support, and ports. Additionally, the watershed provides an estimated $21 billion in ecosystem services to the region, including water filtration and carbon sequestration, as well as habitats, such as forests and wetlands.

What is a Watershed?

A watershed is an area of land that drains all streams and rainfall into a common outlet, such as a river, bay, or lake.

As the longest undammed river east of the Mississippi, the Delaware River provides habitats for more than 200 resident and migratory fish species, hosts significant recreational fishers, is an important source of oyster and blue crabs, and hosts the largest population of American horseshoe crabs. The watershed is also home to the Delaware Water Gap (one of the country's most visited national parks), more than 400 miles of National Wild and Scenic Rivers, six National Wildlife Refuges, and one of the largest systems in the National Estuary Program. In 2015, the US Geological Survey's Water Census identified the Delaware River Watershed as one of three areas of national focus.

The Delaware River flows into the Delaware Bay, a region comprised of a complex patchwork of tidal rivers, salt marshes, forests, farms, towns, and small cities. The bay's coastline supports commercial crabbing, oystering, and fishing. The southernmost part of the watershed overlaps with 150 miles of the Pinelands National Reserve. In addition to the Delaware Bayshore's being recognized for its importance to migratory waterfowl, songbirds, and shorebirds, the watershed is also home to four National Wild and Scenic Rivers.

The largest New Jersey tributary to the Delaware River is the Musconetcong River, a 42-mile Category-One and national Wild & Scenic River, recognized for its high water quality, exceptional ecological significance, and value as a drinking water source. This status means that it is protected from any measurable changes in water quality and it requires impaired (polluted) water to be restored. See "Resilient Musconetcong 2050: The Comprehensive Vision Plan for the Musconetcong Watershed."

Protection of the diverse cultural and environmental characteristics of the Delaware Bay region is possible through sustainable planning and land preservation initiatives that work to protect water quality and habitats, a necessary task in this economically disadvantaged region.

PRIMARY CONCERNS

- Water quality and quantity issues have resulted from increased development in the Delaware River watershed. In some cases, permitted water-use allocation exceeds sustainable levels.
- Pollution runoff from stormwater and agricultural sources has increased within the watershed.
- Residential demand for water is higher, including for nonconsumptive irrigation use, which leads to greater withdrawals and a growing threat of droughts that will affect New Jersey's water resources.
- Flooding issues are becoming more prevalent and economically costly with increased development in and around the floodplain.
- Other states and the federal government have not met their full funding obligations for the Delaware River Basin Commission, despite New Jersey fully funding its share. This makes New Jersey's funding critical to the success of the multistate agency.
- Habitat degradation and loss of are negatively impacting wildlife, including vulnerable shorebirds, horseshoe crabs, and fish species.
- The development of open space has impacted local outdoor recreational economies.

POLICY RECOMMENDATIONS

- Fund and incentivize open-space and farmland preservation projects within the watershed. Prevent any diversions of public lands for private development and uphold restrictions on the use of preserved lands to ensure the integrity of preservation programs.
- Support policies that encourage the protection of the Highlands and Pinelands regions, and uphold the integrity of the Highlands Council and Pinelands Commission.
- Continue to fully fund New Jersey's share of $893,000 for the Delaware River Basin Commission, which manages, protects, and improves the basin's water resources.
- Restore the Payment In Lieu of Taxes Program to help municipalities address the loss of ratables.
- Encourage sustainable shellfish aquaculture through the coordinated activities of the Delaware Bay Aquaculture Development Zone and ongoing stakeholder groups that bring industry and conservation organizations together to resolve issues of concern.

Restore Raritan Bay

The Raritan Bay is an untapped New Jersey resource whose economic and recreational potential is limited by poor water quality. In the late 1800s, Raritan Bay hosted a booming commercial shellfish industry. Today, only hard-shell clams are harvested from the bay and they require expensive depuration due to poor water quality. Since the 1970s—thanks to the Clean Water Act and the work of dedicated advocates—the Raritan Bay has been taking baby steps toward improved health. However, there are still algae blooms, combined sewer discharges, polluted runoffs, and trash floating in the water. Additionally, skin-to-water contact poses health risks.

People think of the Jersey Shore as ending at Sandy Hook, but, in fact, it extends to Perth Amboy. Raritan Bay is thus the backyard for millions of New Jerseyans, providing opportunities for recreational activities such as fishing, boating, kayaking, crabbing, swimming, and bird watching. Additional reading about the area's harbors and estuaries has been made available by the NY/NJ Harbor and Estuary Program.

PRIMARY CONCERNS

- Legacy landfills and Superfund sites discharge pollution into the bay.
- Combined sewer overflows discharge raw sewage into the water during times of heavy precipitation.
- There is a lack of regular water-quality testing.
- Unsafe conditions for recreational use prevail.

POLICY RECOMMENDATIONS

- Eliminate combined sewer overflows that discharge raw sewage directly into the water.
- Request that the US Environmental Protection Agency designate the Raritan Bay as a No Discharge Zone to prevent vessels from discharging sewage.
- Preserve land along the shoreline of and the tributaries to the Raritan Bay; restore existing natural areas to reduce flooding and to filter water before it enters the bay and its tributaries.
- Improve stormwater management, with a goal of zero runoff into Raritan Bay.
- Revive research about and work towards the restoration of oysters throughout the Bay in order to take advantage of their ability to serve as natural water filters.
- Designate beaches along the Raritan Bayshore as bathing beaches and perform both regular, protective water-quality testing and timely notification of water quality when the latter poses a health risk.
- Develop a consistent and meaningful sampling program for Raritan Bay to track trends over time, isolate pollution sources, and understand the health of the bay.