

# NEW JERSEY WATER SUPPLY AUTHORITY



## 2019 ANNUAL REPORT

AND THE

## COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE YEAR ENDED JUNE 30, 2019



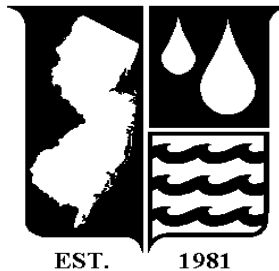
NEW JERSEY WATER SUPPLY AUTHORITY

# 2019 ANNUAL REPORT

AND THE

COMPREHENSIVE ANNUAL FINANCIAL REPORT

A COMPONENT UNIT  
OF THE STATE OF NEW JERSEY



FOR THE FISCAL YEARS ENDED  
JUNE 30, 2019 AND 2018

Prepared by:  
Finance and Accounting Staff

Beth Gates  
Executive Director

# 2019 Annual Report

**Governor**  
Philip D. Murphy



## Authority Members

Catherine R. McCabe  
Chair

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Vice Chair  
Chair, Audit Committee

Shing-Fu Hsueh  
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Susan Blew  
Chair, Watershed Lands Acquisition Committee  
Chair, Personnel Committee

Ellsworth Havens  
Chair, Capital Projects Committee

## Staff

Beth Gates  
Executive Director

Kathrine Hunt, Esq.  
Deputy Attorney General

## 2020 Monthly Meetings

The 2020 Monthly Meetings of the New Jersey Water Supply Authority are scheduled to be held in the Conference Room of the Authority's Clinton Administration Building, 1851 Highway 31, Clinton, New Jersey, unless otherwise indicated, beginning at 2:00 p.m. on the following Mondays:

January 6, 2020

February 3, 2020

March 2, 2020

April 6, 2020

May 4, 2020

June 1, 2020 (Canal Office)

July 6, 2020 (Canal Office)

August 3, 2020 (Manasquan Office)

September 14, 2020

October 5, 2020

November 2, 2020

December 7, 2020

The period from 12:00 p.m. to 2:00 p.m. on the above dates is set aside, as needed, for separate Committee meetings of the Personnel, Finance, Capital Projects and other Committees of the Authority.

Cover

*Photo by Jesse Wallenwaber, Schnabel Engineering, Round Valley South Dam*

The New Jersey Water Supply Authority was created on October 7, 1981 (P.L. 1981, c. 293) to operate, on a self-supporting basis, the existing State water supply facilities and to develop future State water supply projects as recommended in the State Water Supply Master Plan. The Authority's Spruce Run/Round Valley Reservoirs System and the Delaware and Raritan Canal Water Transmission Complex (the Raritan Basin System), provides the basic source of water supply to a number of public and private water utilities serving more than 1,500,000 people in central New Jersey. The Manasquan Water Supply System in Monmouth County commenced delivery of this new surface water supply to a number of public and private water utilities, serving more than 250,000 people in the Monmouth County area, on July 1, 1990. Under agreement with the Southeast Monmouth Municipal Utilities Authority, the Authority also operates and maintains a four million gallon per day water treatment plant and distribution system for five municipalities in Monmouth County.

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# **Introductory Section**

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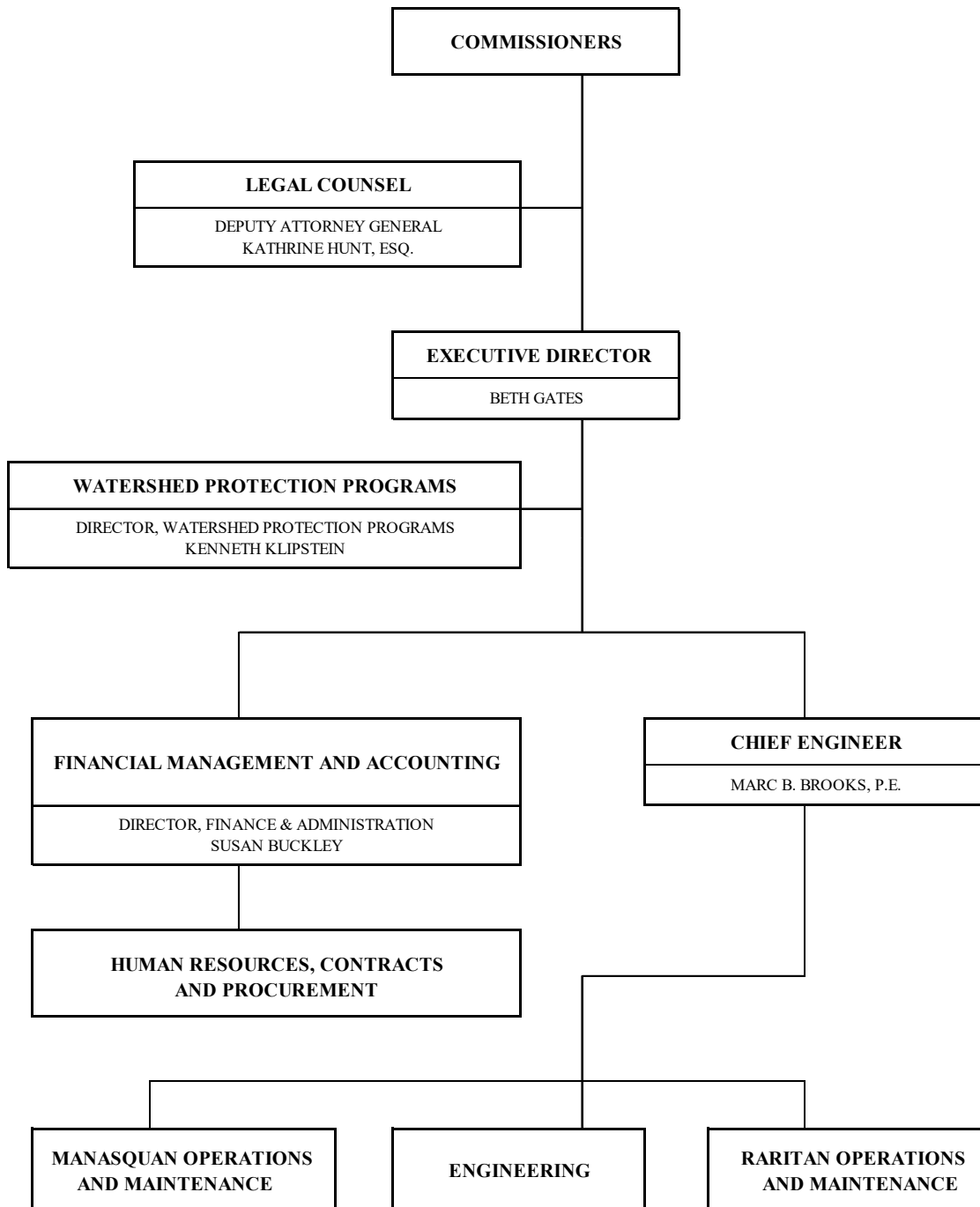
Watershed Protection Programs Unit

Letter of Transmittal

# New Jersey Water Supply Authority

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### NEW JERSEY WATER SUPPLY AUTHORITY TABLE OF ORGANIZATION





# Letter to Governor and Legislature

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## NEW JERSEY WATER SUPPLY AUTHORITY

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December 2019

### **To the Honorable Philip D. Murphy, Governor and Members of the New Jersey Legislature**

I am pleased to submit the 38th Annual Report of the New Jersey Water Supply Authority. The Authority was created on October 7, 1981 (P.L. 1981, c.293) and was established in but not of the Department of Environmental Protection of the State of New Jersey. The “New Jersey Water Supply Authority Act,” under N.J.S.A. 58:1 B-20, calls for the Authority to publish an Annual Report of its finances on or before the last day of February for the preceding calendar year. This report contains the Authority's Independent Auditors' Report, and all required reporting to be in compliance with Executive Order No. 37 (2006), for FY2019.

In recent years, the Authority has been furthering its studies of the Round Valley and Spruce Run embankments. As part of these efforts, the Authority convened Technical Review Boards (“TRBs”) in 2014 and 2015 and again in 2017 and 2018 to discuss the conditions of the Spruce Run and Round Valley embankments. The Round Valley and Spruce Run embankments were both constructed in the early 1960s. The Spruce Run dam was constructed on a limestone foundation, which necessitated special treatment during construction and regular, continuous monitoring. The Authority is actively managing significant capital projects to implement the recommendations of the TRB.

Specifically, the TRB recommended a significant rehabilitation project of the Round Valley embankments. Project components include the grouting of the abutments at the Round Valley North and South Dams, dredging of the inlet to the Round Valley South Dam Tower and embankment improvements to retrofit the downstream slopes of all three Round Valley embankments with improved drains that also act as filters. Grouting of the South Dam abutments was completed in November of 2019 and grouting of the North Dam abutments will be completed in January 2020. The dredging design is also complete and permits are in place. Dredging at the inlet will begin in December 2019. The embankment improvements are expected to begin early in 2020 and continue through 2022. Along with the major rehabilitation of the slopes, ancillary work will be done that includes improvements to the Round Valley auxiliary buildings, replacement of the ten-inch cast iron pipe at the Round Valley South Dam, and abandonment of hydraulic valve and pipeline that controls the low-level release at the Round Valley South Dam.

The TRB made recommendations to rehabilitate the outlet works at the Spruce Run Reservoir (located approximately one mile north of the Town of Clinton). The reservoir is impounded by the Spruce Run Dam and Dikes A and B, and provides stream flow regulation, recreation, as well as a raw water supply to more than 1,500,000 residents of central New Jersey. Discharge from the reservoir is either from the reservoir primary spillway or from the outlet tower through twin 84-inch diameter pipelines which reduce to twin 48-inch diameter pipes at the downstream outlet vault. Many components of the outlet works date to the original construction. With a service life of greater than 50 years, some of the outlet works equipment and structures have exceeded their anticipated design life and must be rehabilitated.

The Authority solicited proposals from engineering consultants for the rehabilitation of various components of the Spruce Run Reservoir outlet works that include rehabilitation of the primary spillway and flow measuring weir, improvements to the spillway discharge channel for conveyance, inspection and seepage monitoring, replacement of valves, the outlet tower hoist and the roofs at both the outlet tower and the outlet vault, and installation of electrical actuators for the outlet tower sluice gates, a manual transfer switch for emergency sluice gate operation, equipment for remote reading of outlet releases, a hardened security gate at the vault and various improvements to the tower and vault buildings. The consultant will also review the operation of the outlet works and consider potential modifications to potentially improve the procedures required to release water for emergency drawdown. Updated hydrologic and hydraulic (“H&H”) modeling studies for Spruce Run Reservoir and the flow measuring weir will be included in this contract to verify the spillway capacity and optimization of rapid drawdown. Procurement of engineering services for this project should be complete by the end of 2019.

Other water supply projects are ongoing in the Manasquan System and in the Delaware and Raritan Canal. The Authority is implementing a \$40 million contract to dredge a ten-mile reach of the Canal between Lincoln Highway (Route 27) and Amwell Road in Franklin Township, Somerset County. Construction began in 2018. The second year of dredging was completed on October 31, 2019. 84,000 cubic yards of material (sediment) were removed from the Canal in 2019 through hydraulic dredging, and 70,000 tons of soil was removed from the Route 202 stockpile site in Lambertville. The total estimate of sediment to be removed from the Canal over the three-year life of the project was estimated to be approximately 248,000 cubic yards. The dredged slurry is pumped through piping to geobags, each 300 feet long by 75 feet in circumference, to dewater in a staging area. After a period of drying, the dewatered material is hauled to a beneficial reuse facility. Dredging will continue for one more season between May and October of 2020.

In Manasquan, high voltage cables feeding the reservoir electrical system were replaced in 2019 in addition to the refurbishment of high voltage electrical breakers. 2018 dam inspection recommendations were implemented in 2019, such as the replacement and calibration of many of the embankment-monitoring instruments and the upgrading of the data acquisition systems. At the Manasquan Water Treatment Plant, 2019 upgrades included the replacement of chemical dosing pumps, some repairs to the ozone gas generation system and the replacement of piping and valves at multiple locations.

To combat invasive aquatic plants, in a partnership between the Authority and the Monmouth County Park System, a Boat Stewards Program was conducted at the Manasquan Reservoir Boat Launch on weekends and holidays throughout the summer of 2019. The program was modeled after successful Boat Steward Programs in New York and other northeastern states. To stop the spread of aquatic invasive plants like hydrilla, Stewards inspected 1,979 boats for “hitchhiking” invasive species fragments, intercepting 243 boats from entering the reservoir with plant fragments and 442 vessels leaving the Manasquan Reservoir with fragments. Stewards also educated patrons on aquatic invasive species and surveyed boat owners on boat cleaning habits, typical boat usage, and level of familiarity with invasive species.

In 2019 Cyanobacteria (harmful algal) blooms affected both Spruce Run Reservoir and Manasquan Reservoir, as well as several other high profile water bodies in New Jersey. Cyanobacteria are bacteria that occur naturally in water bodies and can experience a population explosion, or bloom, under suitable environmental conditions, such as high nutrients (nitrogen and phosphorus), warm temperatures, and sunlight. Some cyanobacteria produce toxins that can be harmful to humans, livestock, and pets. The Authority has taken an active role in monitoring for potential cyanobacteria blooms in cooperation with partners at the New Jersey Department of Environmental Protection (“NJDEP”), United States Geological Survey, New Jersey Water Science Center (“USGS”), and New Jersey Division of Parks and Forestry.

The Authority operates three separate systems: the Raritan Basin System, the Manasquan Water Supply System, and the Manasquan Water Treatment Plant and Transmission System. Each system must generate sufficient revenue each year to cover its own operating expenses and debt service. Rates have been generally stable and the Authority is in good financial health. Total net position was approximately \$97.8 million as of June 30, 2019 and has increased over June 30, 2018 and June 30, 2017. In fiscal year 2019, total assets and deferred outflows were \$297.2 million and total liabilities were \$199.5 million.

The Authority submitted its FY2018 annual report and financial statements in June 2019 and will submit its FY2019 annual report and financial statements in December 2019 to the Government Finance Officers Association for consideration for the Certificate of Achievement in Financial Reporting Award and anticipates a positive response. If successful, these would be the Authority's 27th and 28th consecutive awards.

Sincerely,



Beth Gates  
Executive Director

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## Operations - Raritan System

Operation and maintenance activities at all Authority facilities have been typical. The Round Valley pumping program did not run in 2019 due to the expected future drawdown for the Round Valley Project. Reservoir drawdown for the project started in summer 2019 and is expected to complete in fall 2019. The targeted maximum pool elevation for the duration of the project is elevation 360.0 over sea level, or 25 feet below normal full pool.

## Round Valley Project and Dam Inspections

As part of the recommendations from the 2013 dam inspections, the Authority convened a Technical Review Board (“TRB”) in 2014 to discuss the conditions of the Spruce Run and Round Valley embankments. Two previous TRBs were convened in the 1980s to evaluate the conditions at the Spruce Run dam, but similar TRBs had never been used to evaluate the embankments at Round Valley Reservoir. The 2014 TRB recommended several steps to further document the conditions of the embankments including the following:

- Installation of additional instrumentation at both facilities to monitor the phreatic line through the embankments and evaluation of the materials and methods used to construct the embankments.
- Side Scan Sonar Surveys at Spruce Run aimed at locating sinkholes on the upstream side of the dam.
- Visual camera inspections of the drain pipes at Round Valley and Spruce Run.
- Perform a thorough review of existing records including, but not limited to, preconstruction reports, construction records (1960s), and subsequent construction records (1981 to present).

- Reconvene the TRB to perform a Potential Failure Mode Analysis (“PFMA”) for the Spruce Run Dam and all Round Valley embankments.



Spruce Run Reservoir Inlet/Outlet Tower

All recommended studies were performed in 2014-2016. The TRB reconvened in July 2015 to perform a PFMA on the three Round Valley Embankments. A PFMA is an analysis, commonly used in the dam safety community and consists of a robust study of the construction and past performance records of the embankments.

At the conclusion of its 2015 session, the TRB recommended that “*the Authority begin budgeting, engineering, and planning for the required modifications to the Round Valley Embankments.*”

The Authority procured a consultant to act as the Engineer of Record to investigate, plan, design, and provide full time construction management services for the efforts recommended by the TRB including:

- Consider rehabilitation alternatives and design repair for the existing hydraulic valve on the low-level release at the Round Valley South Dam
- Remove and replace 10-inch Cast Iron Pipe that connects the RV Force Main to the RV South Vault
- Dredging of the Round Valley South Tower Intake Channel

- Repairs to the Round Valley building structures (towers and vaults)
- Security improvements at Round Valley Reservoir
- Install chimney drains and improved drainage features at all three embankments
- Grout abutments at the Round Valley North and South Dams



Round Valley South Dam under construction, August, 1962. What is now the reservoir would be to the left in photo.

Plans and specifications for the dredging of the Round Valley South Tower Intake Channel, the security improvements, and the grouting of the abutments at the Round Valley North and South Dams are being prepared separately so that they may be bid at different time intervals than the other parts of the large project. The dredging and grouting projects are on an accelerated basis relative to the other parts of this large project.

The grouting of the abutments is anticipated to be completed by the beginning of winter 2020. The dredging of the intake channel should be completed by the end of 2019.

A separate contract for improving the electrical service to each embankment for the large project should be completed by the end of 2019.

It is anticipated that the excavation work on the embankments will be initiated in the spring of 2020.



Round Valley North Dam under construction, October 1962. What is now the reservoir would be to right in photo.

The Authority's consultant created and will maintain a project-specific website to keep the public informed about the status of the project. The website can be accessed at <http://www.roundvalleyproject.com/>.

Authority staff conducted the 2019 regular inspections of Round Valley and Spruce Run Dams on September 23, 2019.

## Spruce Run Reservoir Multi-Disciplinary Project

The Spruce Run Reservoir is located approximately one mile north of the Town of Clinton. The reservoir is impounded by the Spruce Run Dam and Dikes A and B, and provides stream flow regulation, recreation, as well as a raw water supply to more than 1,500,000 residents of central New Jersey. Spruce Run Dam is a Class I, high hazard zoned earth embankment constructed at the former confluence of Spruce Run and Mulhockaway Creek. The reservoir is fed by two major and several minor streams, with a total drainage area of 41 square miles. A primary spillway is located at the west abutment of the dam with a crest elevation of 273.0, which is the maximum operating pool level of the Spruce Run Reservoir. Discharge from the reservoir is either from the reservoir primary spillway or from the outlet tower through twin 84-inch diameter pipelines which

reduce to twin 48-inch diameter pipes at the downstream outlet vault.



Spruce Run Reservoir Primary Spillway.

The Authority's responsibility to ensure raw water delivery and safe operation of the dam requires the structural integrity and full operational capacity of the outlet works at all times. Many components of the outlet works date to the original construction. With a service life of greater than 50 years, some of the outlet works equipment and structures have exceeded their anticipated design life and must be rehabilitated.

The Authority solicited proposals from engineering consultants for the rehabilitation of various components of the Spruce Run Reservoir outlet works. The components were selected based on recommendations from the TRB, observed deterioration and operational needs. The selected consultant will investigate, design, and provide construction management services for the following tasks:

- Rehabilitate the primary spillway and flow measuring weir.
- Improve the spillway discharge channel for conveyance, inspection and seepage monitoring.
- Replace the Howell-Bunger valves, the outlet tower hoist and the roofs at both the outlet tower and the outlet vault.
- Install electrical actuators for the outlet tower sluice gates, a manual transfer switch for emergency sluice gate operation, equipment for remote reading of outlet releases, a hardened security gate

at the vault and various improvements to the tower and vault buildings.



Spruce Run Vault. Howell Bunger Valves in Operation.

In addition to the previous items, at the recommendation of the TRB, the consultant will critically review the operation of the outlet works and consider potential modifications to improve the unconventional procedures required to release water for emergency drawdown. Updated hydrologic and hydraulic ("H&H") modeling studies for Spruce Run Reservoir and the flow measuring weir will be included in this contract to verify the spillway capacity and optimization of rapid drawdown.

As of the date of this writing, procurement of engineering services for this project is nearly complete. A full schedule for this work has not been established.

### **South Branch Pumping Station - Rehabilitation of Four (4) Pump Assemblies, Mechanical & Electrical Upgrades**

The South Branch Pumping Station was constructed in 1965 as a part of the Spruce Run/Round Valley Reservoirs Complex in the Raritan River Basin. It is located on the South Branch Raritan River, about three and a half miles downstream from the Spruce Run Reservoir. It is used to pump water from the South Branch Raritan River to the Round Valley Reservoir. Ten pumps, each operated by a 2,000 HP motor, can transfer

up to 350 million gallons per day to the reservoir through a 3.2 mile long, 108-inch diameter force main, though actual pumping rates are lower because the limiting factor is the amount of water in the river. The Authority usually only operates two of the ten pumps at once, and in some cases up to four pumps at once.



South Branch Pump Station 2000-HP pump under rehabilitation.

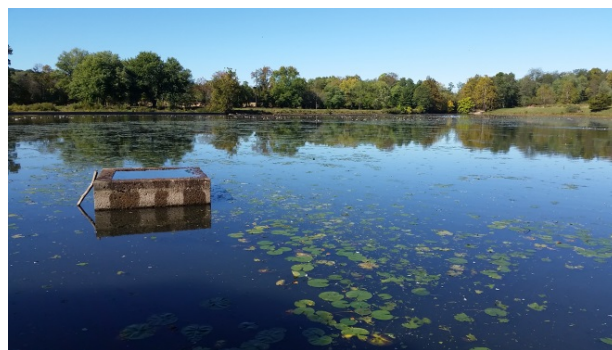
A program is underway to refurbish the main pumps and motors including replacement of the baseplates. The grout beneath some of the pumps' baseplates has failed and four of the pumps (pump numbers 4, 5, 7 & 8) vibrate to the extent that alignment between the pumps and motors cannot be maintained making them inoperable. An initial contract refurbished pumps #1 and #6. This contract was a model to refine the contract scope for future contracts. These two pumps were successfully rehabilitated with new base plates, tested and placed back into service in 2016. The refurbished pumps have performed well during rigorous pumping since that time. In the fall of 2019, professional engineering services are being procured for the rehabilitation of the four inoperable pumps. In addition, mechanical and electrical upgrades are needed for the entire Pumping Station. This project will be designed and conducted to minimize the impact on operations. Construction work at the Pumping Station which requires the

remaining pumps to be temporarily out of service will be scheduled to coincide with intervals when pumping is not anticipated. The work will be conducted over the next two years.

## South Branch Pumping Station - Dredging the Intake Pond and Rehabilitation of the Ice Deflectors

The intake pond at the South Branch Pumping Station ("SBPS") was designed with a capacity of 21,000,000 gallons during low flow pumping periods. Sediment has accumulated in the pond reducing its capacity, thereby reducing the efficiency of the pumping operation. Sediment was last removed from the pond in 1986 when it was removed in the dry. The intent of this project is to dredge the intake pond to return it to its original design depth and capacity.

Also at the SBPS, there are twelve steel wide flange beams set in a concrete bed that function as ice deflectors at the release works of the channel of the South Branch Raritan River adjacent to the pond. The ice deflectors protect the structure from damage from ice and trees floating down the river. They are deteriorating and need to be replaced. The ice deflectors are intended to be repaired as part of the pond dredging project.



South Branch Pumping Station Intake Pond

The Authority retained an engineering consultant who prepared a design and applied for permits. The potential existence of a threatened and endangered species necessitated surveying by an expert on that



species. It is now anticipated that the dredging will take place in the summer of 2020.

## D & R Canal - Dredging

Flow in the 10.5-mile section of the D&R Canal (“Canal”) in Franklin Township between Route 27 and Amwell Road, near Millstone Borough, is being impeded by sediment accumulation. This is compounded by the growth of weeds during the summer months when flow demand is the greatest. The water surface elevation is typically raised during these periods, which causes water to discharge over the lower elevation spillways.

The Authority procured a consultant who developed a design to procure contractors to remove up to an estimated 248,000 cubic yards of sediment from the Canal. Development of the program included a proactive public participation element including meetings with stakeholders along the Canal and a website to keep the public informed about the status of the project. The website can be accessed at <http://www.njwsa.org/canal-dredging.html>.

The consultant considered four alternatives for the proposed dredging project; mechanical excavation (in dry), mechanical dredging (in wet), hydraulic dredging with Geobags, and hydraulic dredging with mechanical dewatering. After reviewing the alternatives, the hydraulic dredging with either method of dewatering the sediment was selected as the preferred alternative.

The Authority reached an agreement with Wyeth Holdings LLC for a beneficial reuse of the sediment at the former American Cyanamid Superfund Site in Bridgewater, New Jersey. Guidelines for material acceptance and appropriate testing protocols have been agreed upon by all parties including NJDEP and the Environmental Protection Agency.

A Level Two Environmental Impact Document was prepared and the required Public Hearing was held on May 13, 2013. The project is being financed by the New Jersey Environmental Infrastructure Financing Program (now known as the New Jersey Infrastructure Bank).

This project also includes disposal of up to 53,000 cubic yards of sediment from the US Route 202 stockpile site being used to temporarily store sediment removed from the Canal as part of the Authority’s Maintenance Dredging program.

**Please Pardon Our Project**

**Caring for the Canal**

Canal dredging between Route 27 in Kingston and Amwell Road is expected to begin in Summer 2018. It is expected to take three construction years.

Occasional towpath closures may be necessary. We apologize for any inconvenience this may cause.

For more information: [www.njwsa.org](http://www.njwsa.org)



Geobags in drying (staging) area during dredging operations. Silt-laden water is directed to the geobags that filter the sediment. Clean water is discharged back to the Canal.

Public information poster for the Canal Dredging Project.



“Fox River” Dredge, one of two dredges working in 2019. Note the boom extending into water in front of dredge in photo. Note three vertical square “spuds” keep equipment in place while dredging. Square plates at base of “spuds” prevent damage to clay liner at bottom of Canal. On-board computer and GPS maintain location and depth of boom and cutter head to prevent damage to the clay liner.

A contract was executed with the lowest responsive bidder, J.F. Brennan Company, Inc., La Crosse, Wisconsin for \$40,993,060.00.

The contractor mobilized March 14, 2018 and completed dredging Reaches 1, 2, and 4 by November 2018. Dredging is not conducted during winter months due to environmental constraints. Approximately 50,000 cubic yards of dredged sediment was transferred to the beneficial reuse site after the dredging season.

Dredging restarted during the first week of May 2019 in Reach 3. Reach 3 was completed in June and dredging then shifted to Reach 5. Approximately 60 percent of Reach 5 is anticipated to be completed by the 2019 winter shutdown at the end of October. Dredging is expected to initiate again in May 2020 and continue until October 2020. 2020 is expected to be the

final year of the project.

Transporting accumulated sediment from the US Route 202 stockpile in Delaware Township, Hunterdon County to the beneficial reuse site started in September 2019 and is expected to be completed in fall 2019.



Overhead view of Route 202 Stockpile area in Delaware Township New Jersey during trucking operation. Crane on site to place new dewatering structure.

## **D & R Canal - Rehabilitation of the Western Embankment downstream of the Prallsville Lock**

This section of embankment makes up the western bank of the Canal that extends one mile south from the Prallsville Lock to an abandoned railroad crossing. The embankment has been affected by numerous flooding events in the past decade that caused two full breaches of the embankment in 2005 and 2006, and nearly breached again in 2011 following Tropical Storms Irene and Lee. Both breaches were repaired on an emergency basis to restore flow in the Canal, however a more stable and permanent solution to restore the embankment is being considered. The following two photographs are indicative of the repairs conducted in 2011.



D&R Canal embankment in Stockton Borough in 2011.

The preceding photograph illustrates the partial failure of the western embankment in Stockton Borough following Tropical Storms Irene and Lee in 2011. Note the level of the Delaware River (to left in photo) relative to the crest of the embankment and the seepage through the embankment. At the peak elevation, the river was only about six inches from overtopping certain sections of the embankment.

Dense graded aggregate (“DGA”) was placed by conveyor belt across the Canal since it was unsafe to work from the embankment immediately after the event.



Placement of DGA by conveyor across the Canal.

Pictured above is the placement of the DGA by conveyor across the Canal. The DGA was used to restore the embankment to prevent a breach. The DGA was compacted as conditions permitted.

Failures of an earth embankment are caused by a variety of reasons including overtopping and seepage through the embankment which causes the slope to become unstable. The Authority has retained both an engineering and a cultural resources consultant to work together to develop a potential long-term solution to the embankment problems that will be constructible and acceptable to the numerous regulatory bodies and permitting agencies.

Currently, the consultant is completing the design that includes compaction grouting and hand-laid stone armoring along the Delaware River slope on designated sections of the embankment downcanal from Bridge Street in Stockton. In addition, the rehabilitation project includes Canal-side slope restoration of all areas repaired on an emergency basis in 2011.

## **D & R Canal - Rehabilitation of the Upper Canal Embankment**

The right bank of the Canal from Raven Rock Lock to Prallsville Lock is a narrow embankment that separates the Canal from the Delaware River. Both sides of the

trapezoidal embankment core wall are armored with hand laid stone. In this section, the width of the embankment crest varies from 20 feet to 100 feet. The narrow nature of the embankment precludes access of vehicles and/or heavy machinery, providing significant maintenance challenges for the Authority. This section of the embankment overtops frequently from the river side, which causes erosion and could potentially lead to failure of the embankment. It appears that the embankment was designed with full knowledge of these high flows, keeping in mind that at the time, they had the “luxury” of being able to drain the Canal for maintenance each year.

High flows during rain events, specifically, Tropical Storms Irene and Lee, caused significant erosion at various locations of this section of the embankment. After these storms, Authority staff made temporary emergency repairs to some sections of the embankment to stabilize and to prevent complete breach. It was intended to make final repairs in accordance with approved plans as soon as practicable. The embankment was primarily repaired by installing rip-rap and cement bags to protect the embankment from further deterioration. In some locations, slopes were protected by reinstalling the missing stone with mortar patches, and some locations were not repaired. In most cases, the size and shape of the original embankment was not maintained.

The Authority has contracted with both engineering and cultural resources consultants to investigate and provide a design for rehabilitation of the embankment. Construction is anticipated to initiate in 2020 or 2021.

## **D & R Canal - Landing Lane Spillway**

The Landing Lane Spillway is located immediately upcanal of the Landing Lane Bridge in New Brunswick. This spillway

was rehabilitated in 1991 with the construction of a concrete cutoff wall on the Canal side slope to control leakage. Timber planks were installed on the concrete wall for historical appearance. The spillway was finished with hand-placed stones across the crest and the river side slope. The stones were laid with a soil bedding without the benefit of a quality mortar. The spillway is deteriorating. Seepage over the top of the cutoff wall is infiltrating and eroding the structure below the river side slope. Further, the stones are being dislodged and the spillway crest needs to be stabilized. The planned rehabilitation is expected to consider removal of all stones from the crest and installation of a concrete slab as a substructure to the stones, which will be anchored with mortar and steel.



Crest of the Landing Lane Spillway.

Authority staff solicited the services of an engineering consultant to design repairs to the spillway. A cultural resources consultant has also been procured to work on the same project.

The project is currently in the permitting phase and it is anticipated that construction will likely take place in 2020.

## **D & R Canal - Embankment Repairs Downstream of Island Farm Weir**

A narrow embankment separates the Canal from the Raritan River just downstream of the Island Farm Weir on the Raritan. The river side slope just downstream has experienced significant erosion and is in need of rehabilitation. Continued erosion and deterioration could lead to a breach of the Canal.

The engineering and cultural resources services contracts for this project were combined with the Landing Lane Spillway project noted above. The project is currently in the permitting phase. It is anticipated that this work will be completed in 2020.



Note erosion of embankment between Raritan River (left in photo) and D&R Canal just downstream of Island Farm Weir.

## **D & R Canal Rehabilitation of Six Mile Run Culvert**

The Six Mile Run Culvert is located in Franklin Township, Somerset County at Station 2298+17, just south (upcanal) of Blackwells Mill Road and adjacent to the Six Mile Run State Park site at 625 Canal Rd. The culvert carries the Six Mile Run stream under Canal Road and the Delaware and Raritan Canal and multi-use trail. The culvert consists of three stone masonry arches. The structure presumably dates to the original construction of the Canal (1830's) and was rehabilitated in the 1980's.

Additional work was performed on the outlet end in 2009. The culvert is considered a "bridge" as it spans greater than 20 linear feet. The culvert structure is maintained by the Authority and the roadway portion (Canal Road) is maintained by Franklin Township.



Downstream side of Six Mile Run Culvert.

In March 2018, Franklin Township alerted the Authority to a sink hole that had formed in the area of the road that the Township had patched with asphalt on previous occasions. This sinkhole occurred after two Nor'easter storms in a period of a few days. The Authority procured a contractor who made an emergency repair to the road surface and subsurface over the culvert.

The culvert interior at the inlet side was missing stones which needed to be repaired. Authority staff contracted with divers to make temporary repairs to the interior of the culverts pending a more substantial rehabilitative effort.

Authority staff solicited the services of an engineering consultant to evaluate the entirety of the three-barrel structure and prepare a design for a complete rehabilitation. A cultural resources consultant has also been procured to work on the same project.

The project will be split into two phases. Phase I will include cleaning, dewatering, and inspection of the culvert, and Phase II will consist of the engineered design

rehabilitation.

It is anticipated that Phase I tasks will take place in early 2020 and Phase II construction will take place in 2021.

### **Retrofitting of Several Detention Basins in Franklin Township**

Since 1997, several of the Canal water purveyors have reported increased concentrations of Total Suspended Solids (“TSS”) in the raw water during and immediately after precipitation events. As a result, the Authority has been working since 2001 on a nonpoint source (“NPS”) pollution prevention program to reduce TSS and phosphorous in tributaries and infalls entering within the final eleven miles of the Canal. The NPS program has been funded by the New Jersey Department of Environmental Protection (“NJDEP”) under Section 319(h) NPS Pollution Grant Program and the Corporate Business Tax Watershed Fund. In 2007, an engineering consultant was retained to implement Best Management Practices (“BMP”) for stormwater entering the Canal in Franklin Township and South Bound Brook Borough, Somerset County.



**Municipal Complex Stormwater Detention Basin.**

In 2013, the Authority’s Watershed staff identified several detention basins as potential candidates for BMP improvements. The basins are located in Franklin Township

and drain to tributary streams entering the Canal. The engineering consultant investigated the basins and designed projects to naturalize the basins and to increase the detention time and infiltration of stormwater. The Authority plans procurement of construction services for improvements to existing basins at Gauguin Way, Laird terrace, the Municipal Complex and Renoir Way, all in Franklin Township. The construction project is expected to begin in the spring of 2020.

### **Spruce Run Administration Building - Replace Fuel System Pumps and Software/Inventory System**

The Spruce Run fuel facility was installed in 1991 and includes one 5,000-gallon underground storage tank (“UST”) for unleaded gasoline, one 2,000-gallon UST for diesel fuel, a fuel dispensing island with computerized pumps, a canopy for weather and stormwater runoff protection, associated piping and electrical wiring, leak detection, overflow protection, spill prevention, and corrosion protection for both tanks and piping. The Authority also maintains a 5000-gallon heating oil tank and a 550-gallon waste oil tank, both underground.

The fuel dispenser system has performed adequately but inspections revealed that the dispenser frames, supplementary connection piping, containment chambers, junction boxes and the fuel island steel curb forms are corroded and have lost much of their structural integrity. The dispensing units are in poor condition and are discontinued from the current market. The fuel storage and management system requires an upgrade to match newly installed fuel systems at the Canal Field Office in West Trenton and the Manasquan Water Supply System Office in Wall Township. It is also noted that parts for both the dispensing units and the fuel storage and management system are very difficult to locate. The double-wall

underground storage tanks are reported in good condition.

Engineering services have been procured to inspect, investigate and design a new fuel dispensing system including replacement of the card readers system, expansion of the Veeder-Root leak monitoring system to fuel oil and waste oil tanks, and replacement of the fuel island and the existing canopy.

The engineering consultant further recommended removal of the waste oil tank and replacement with an above ground unit. The underground waste oil tank was removed in August 2019 without incident.

Inspection and testing of the diesel and gasoline sump pits revealed that the system couldn't support mandated hydrostatic testing, prompting additional work to replace the tank sumps, fuel piping, spill and overflow protection and access man-ways. It is expected that the construction contract will be completed by the end of winter 2020.

### **Spruce Run Administration Building - Heating and Cooling**

Twenty-one through-the-wall HVAC units provide heating and cooling to the original section of the Administration building. They were installed in 1994 and are reaching the end of their service life. Replacement parts are becoming difficult to obtain and the units are frequently in need of service. Bid specifications for replacement units are currently being prepared by Authority Engineering staff, and installation of the units is expected to occur in spring 2020.

### **Spruce Run Administration Building – Sewer Service Lateral Replacement**



Spruce Run Administration Building emergency sewer pipe replacement.

A portion of the sanitary sewer lateral servicing the original 1960's portion of the building partially failed in the summer of 2018. The replacement of the old sewer lateral required that the contractor trench around the front of the administration building since a portion of the lateral is inaccessible under the original floor slab and offices. This also required the reconfiguration of plumbing in the basement and a new wall penetration out the front of the building. This work was coordinated through the NJ Dept. of Community Affairs State Buildings Unit as an emergency replacement, and the work was completed in September 2018.

### **Operations - Manasquan System**

Raw water contracts were maintained at a total of 19.443 MGD in 2019. No water above the contract volume was purchased during the year. Wetter weather in the winter, spring and summer of 2019 allowed the reservoir to remain at above normal volumes all year. Reservoir water quality was normal during all months of the year. Rainfall was above normal for most months of the year so selective pumping to the reservoir was employed to maintain the best reservoir water quality achievable without artificial aeration. There was a significant blue-green algae bloom in early August that was treated two weeks later with algaecide

during a period where the plant was treating river water.

Staff purchased and used an Abraxis system to measure the toxicity of the one algae bloom that occurred in August. Testing with **Abraxis** provides real time, field and lab based testing solutions for fresh water algal **toxins**. Staff updated the Cyanotoxin Control Protocol and Plan for Manasquan Reservoir System to include actions based on Abraxis results. A detailed cyanobacteria study was undertaken by a limnologist contracted to study causes and potential factors for blooms in the reservoir and review the Authority's cyanobacteria control plan. The report recommendations were generally consistent with the Authority's current protocol.



High voltage cable replacement

High voltage cables feeding the reservoir electrical system were replaced this year after testing identified deterioration. Several high voltage electrical breakers were also refurbished. All electrical safety trip devices were tested and verified this year.

In accordance with New Jersey Dam Safety regulations, a regular inspection of Manasquan Dam was conducted in September 2019. Additionally, staff implemented consultant recommendations from the 2018 formal dam inspection for repair or replacement of instrumentation and replacement of the automated data acquisition system. Many of the 30 embankment monitoring instruments were replaced or calibrated in 2019. The

automated data acquisition system was replaced with a data logger and report generation software. Data loggers are an essential component in data acquisition systems. They can scan a wide variety of measurement sensors, perform programmed calculations, convert the data to other units of measurement, and store the data in memory until it can be sent to a remote database for analysis, reporting, and sharing.

## Operations - Manasquan Water Treatment Plant (“MWTP”)

The treatment plant provided water that met all NJDEP standards throughout 2019. Above average rainfall was managed through use of the new distribution tank separation wall, allowing for more practical treatment of the discolored Manasquan River water that often occurs during rainy summers like the ones experienced in the last two years.

Various upgrades to MWTP equipment were completed in 2019 including:

- Replacement of several chemical dosing pumps and associated piping.
- Cleaning, testing, and rehabilitation of the ozone gas generation system along with most of the peripheral safety and leak prevention equipment.
- Replacement of piping and valves at various locations.





Example of one of the piping and valve replacements at the MWTP. Photo taken before painting.

## **Additional Improvements at the MWTP**

The Authority developed an asset management plan for the MWTP in 2008. The asset management plan included a thorough evaluation of the condition of the existing equipment and an analysis of proposed legislation or changes in regulations that could have an impact on plant operations. The asset management plan identified the need to evaluate the treatment process and design additional filtration in the summer months to improve reliability. This evaluation was completed in 2019 and resulted in the selection of a prepackaged plate settler pretreatment system. This system is the best alternative to increase reliability and the volume of water that can be treated in a day. Additionally, the system significantly reduces waste water generation and coagulant usage. This system would replace the clarifier portion of the treatment units which are due to be replaced or improved in 2021.

## **Watershed Protection Programs Unit**

The New Jersey Water Supply Authority's Watershed Protection Programs Division administers a systematic source water protection program for the watersheds that the Authority relies upon for its water supply. The Division's primary objectives include the development and implementation of projects that afford protection to the quantity and quality of the source water in the Raritan and Manasquan River Basins, and the Delaware & Raritan Canal and its tributaries for the benefit of the Authority and its customers. In 2019, the Watershed Office partnered with government and not-for-profit organizations to implement a variety of cost effective strategies, guided by the results of detailed watershed restoration protection plans for priority sub-watersheds.

## **Watershed Planning**

The Watershed Protection Office partnered with New Jersey American Water Company ("NJAW") to develop a watershed control plan for Cryptosporidium. NJAW will use the watershed control plan as one component of its plan to reduce Cryptosporidium levels at their Raritan-Millstone water supply intake, as required by USEPA's LT2ESWR rules. The Cryptosporidium parasite is particularly resistant to in-plant treatment and therefore, source water protection activities such as agricultural practice implementation, waterfowl control and wastewater treatment plan improvements provide a significant benefit to our customers.

## **Watershed Quality Conservation Practice Implementation**

In 2019, the Authority continued partnerships with NJDEP and USDA-NRCS to implement the Agricultural Cost-Share Program. Funds from NJDEP and the

Authority's source water protection fund matched funds from USDA-NRCS to provide additional cost-share to agricultural producers. Nineteen producers in the North & South Branch Raritan River watershed and the Lockatong & Wickecheoke watersheds are currently participating in the Agricultural Cost-Share Program. The Authority also extended the conservation technical assistance agreement with USDA-NRCS for a shared agricultural specialist through 2020.

## **River-Friendly Programs**

The Watershed Office works closely with Raritan Headwaters Association and The Watershed Institute to implement the suite of River-Friendly programs. The 2019 participation stands at: 5 schools (1 certified), 15 businesses (10 certified), and 6 golf courses (6 certified). Additionally, the River Friendly partnership developed a new program, River-Friendly Community Partner, for organizations that do not fit into the traditional framework. The new program was piloted with two businesses in 2019. During the year, the Authority certified Custom Alloy, our first industrial business and re-certified The Watershed Institute under the baseline standards. The Authority partnered with Raritan Valley Community College to plant 350 trees and shrubs under the Roots for Rivers Initiative. Thirty-three volunteers comprised of college students, professors, and faculty improved about 5.5 acres within the riparian zone of an unnamed tributary of the Raritan River. As a result, the width of the riparian buffer was extended up to 200 feet and in the future the newly planted areas will be naturalized and no longer mowed.

## **Aquatic Plant Management**

Aquatic plants, specifically a number of aggressive invasive aquatic plants, are creating operational and water quality challenges Authority-wide. Dense aquatic

vegetation can cause a myriad of issues including: inhibiting water flow, obstructing intakes, impairing water quality, reducing dissolved oxygen, suppressing the desirable native aquatic plant community, altering sediment chemistry, and reducing water depth. The introduction and spread of invasive aquatic plants in our source water supply exacerbates these effects, and necessitates thoughtful planning and management.

After the 2016 discovery of hydrilla in the Canal, the Authority engaged a qualified consultant in 2017 to assist the Authority in developing and implementing an Aquatic Plant Management Plan for the Delaware & Raritan Canal. The plan focuses on managing aquatic plants for the purpose of maintaining passing flow while protecting water quality for all water users. As recommended in the plan, the Authority initiated a third year of a low-dosage continuous herbicide treatment in June 2019. The Authority continued engaging stakeholders, including all water purveyors, prior to and throughout the process. A post-treatment survey was conducted which documented effective aquatic plant suppression throughout the Canal and no remaining fragments of hydrilla; however, tubers continue to be found in the sediment. Overall, plant growth was reduced in the Canal, both above and within the treatment area. The D&R Canal Aquatic Plant Management Plan will continue in 2020.

The presence of hydrilla and fanwort was confirmed in the Manasquan Reservoir in 2017. In response, the Authority hired a consultant in 2018 to prepare an Aquatic Plant and Cyanobacteria Management Plan for the Manasquan Reservoir. The Authority continued the 4-acre pilot herbicide treatment at the Manasquan Reservoir boat launch, and added a 6-acre pilot herbicide treatment in the northwest corner of the reservoir. These areas have some of the most dense hydrilla growth.



Manasquan Reservoir hydrilla: outside the treatment area (left), within the 4-acre boat launch pilot treatment area (top right) and within the 6-acre northwest corner pilot treatment area (bottom right)

In a partnership between the Authority and the Monmouth County Park System, a Boat Stewards Program was conducted at the Manasquan Reservoir Boat Launch on weekends and holidays throughout the summer of 2019 designed to reduce the spread of aquatic invasive plant species. The program was modeled after successful Boat Steward Programs in New York and other northeastern states. To stop the spread of aquatic invasive plants like hydrilla, Stewards inspected 1,979 boats for “hitchhiking” invasive species fragments, intercepting 243 boats from entering the reservoir with plant fragments and 442 vessels leaving the Manasquan Reservoir with fragments. Stewards also educated patrons on aquatic invasive species and surveyed boat owners on boat cleaning habits, typical boat usage, and level of familiarity with invasive species.



Boat Steward Inspection at Manasquan Reservoir

## Cyanobacteria Monitoring and Response (Harmful Algal Blooms)

In 2019 Cyanobacteria (harmful algal) blooms affected both Spruce Run Reservoir and Manasquan Reservoir, as well as several other high profile water bodies in New Jersey. Cyanobacteria are bacteria that occur naturally in water bodies and can experience a population explosion, or bloom, under suitable environmental conditions, such as high nutrients (nitrogen and phosphorus), warm temperatures, and sunlight. Some cyanobacteria produce toxins that can be harmful to humans, livestock, and pets.

The Watershed Office has taken an active role in monitoring for potential cyanobacteria blooms in cooperation with partners at the New Jersey Department of Environmental Protection (“NJDEP”), United States Geological Survey, New Jersey Water Science Center (“USGS”), and New Jersey Division of Parks and Forestry. In addition to a new hand-held, instantaneous water quality sensor, the Authority utilizes data collected by NJDEP via fixed-wing aircraft remote sensing of Manasquan, Spruce Run, and Round Valley Reservoirs as a screening tool to identify the potential location and estimated cyanobacteria cell density. NJDEP also collects data at the Manasquan Reservoir tower that provides continuous, real-time

water quality data. In September, the Authority entered into a cooperative agreement with USGS to collect continuous, real-time water quality data from a buoy in the middle of Spruce Run Reservoir. The Spruce Run monitoring effort also includes discrete samples for cyanotoxins, phytoplankton community assemblages, and additional data for water quality characterization.



Cyanobacteria bloom at Manasquan Reservoir, October 2019

The Spruce Run Reservoir bloom was first confirmed on June 1, 2019 and continued throughout the summer and into November. A watershed plan focused on this issue will be initiated in 2020.

The Authority is developing a Cyanotoxin Management Plan for Manasquan Reservoir, as recommended by the USEPA for all water purveyors. The draft plan was exercised when a cyanobacteria bloom was confirmed in August 2019. The bloom at Manasquan Reservoir was treated with copper sulfate, an algaecide, in mid-August, and the reservoir was cleared of active bloom status by late August. A late-season

bloom occurred at the end of October but quickly dissipated. Watershed staff has worked closely with Manasquan Operations and Water Treatment Plant staff to ensure the best source water at any given time.



USGS Buoy at Spruce Run Reservoir, September 2019



Cyanobacteria bloom at Spruce Run Reservoir, August 2019 (Photo by Deidre Supple, NJ State Park Service)

## Stormwater Management and Monitoring

In 2019 the NJDEP renewed funding for the D&R Canal Nonpoint Source Implementation project. Under the funding agreement, the Authority will retrofit four stormwater basins located in Franklin Township, Somerset County. Implementation is planned for spring 2020. The Authority deployed two automated ISCO Avalanche Samplers inside the outlet structures of two basins to collect stormwater runoff samples in advance of the retrofits. In 2019, the Authority collected storm samples from three spring rain events, five summer rain events, and five fall rain events. Load data for total phosphorus total suspended solids, and turbidity will be presented to the public at an outreach meeting this fall in advance of the spring 2020 construction.



Pre-retrofit monitoring of the Renoir Detention Basin in Franklin Township, Somerset County

The Authority accepted stormwater mitigation proceeds from the Delaware and Raritan Canal Commission for the purpose of implementing the Cedar Grove Brook Lower Pond Weir retrofit. The Cedar Grove Brook is a significant tributary to the Delaware & Raritan Canal and discharges to the Canal approximately two miles upstream of the water supply intakes for Middlesex Water Company, the Township of East Brunswick and the City of New Brunswick. A 2005 study established that the Cedar Grove Brook is a significant contributor of total suspended solids and turbidity pollutant loads to the Canal during and immediately after precipitation events, requiring increased chemical use for removal and causing increased sludge generation from residuals for the water supply purveyors. The project will involve a redesign of an existing weir by raising the elevation and installing sediment trap/cleanout structures above the weir. An automated ISCO Avalanche Sampler was deployed in late summer to collect stormwater samples in advance of the weir retrofit.

## AmeriCorp New Jersey Watershed Ambassador Program

2019-2020 is the 20<sup>th</sup> anniversary of this very successful program. The Authority is hosting its seventeenth watershed ambassador this year.

## **Policies and Economic Growth Strategies of the State of New Jersey**

The Highlands Water Protection and Planning Act, N.J.S.A. 13:20-1 et seq. protects drinking water for over 5.4 million people and helps preserve New Jersey's dwindling open space. Approximately 17 percent of the Raritan Basin is in the Highlands, providing nearly all of the water stored in Round Valley and Spruce Run Reservoirs. The Authority's land acquisition program has been suspended temporarily; however, to date, the Authority has committed \$15,224,781 since 2003 to purchase and preserve along with its partners, 3,954 acres within the Raritan and Manasquan Basins. The Authority also continues to contribute soft costs and stewardship expenses in order to assist project partners in closing open space parcels within the basin.

One of the stated goals of the NJDEP is to ensure that adequate, safe and reliable water supplies are provided to the people of the State of New Jersey. Specifically, the State ensures that surface and ground water diversions do not exceed the sustainable yield of available water resources. The Raritan Basin Safe Yield Model was developed based on the results of the Authority's operations model, and the Manasquan Reservoir System Safe Yield Model, currently under development, will be used in support of future water allocation permit applications and System operations.

During 2019, the Authority's operations continued to support the sustainability of the State's water resources through its operation of the reservoir systems, through managing passing flow requirements at certain stations along the river system, with the implementation of a \$75 million Round Valley Reservoir Rehabilitation Project and through continuous maintenance and dredging of the Delaware and Raritan Canal to assure adequate flow and the long-term integrity of that structure.

## **Annual Review of Authority Operations**

Each year during the budget process, senior management of the Authority reviews operations to identify inefficiencies and cost savings which, when implemented, will provide direct benefit to the Authority's customers. During 2019, the Authority undertook several steps to implement cost savings and other measures in several areas. The Authority continued its close review of staffing levels, resulting in significant labor savings from careful management of staffing efforts for open positions. As normal vacancies occurred in staffing during 2019, the Authority made certain that personnel were promoted, or hired from outside the Authority into salaries which were lower than the departing incumbent. During FY2019, the Authority filled six vacancies and saved \$51,207 in annual salary and \$35,646 in turnover savings through exercising this diligence. Over the past decade, the Authority has saved approximately \$500,000 in starting salaries when filling vacancies. General operations and maintenance expenses were approximately 17 percent under budget, mainly in the areas of insurance, electricity, and professional services. Rates were further stabilized in FY19 by the use of unanticipated revenue of \$1,078,640 resulting from prior year surpluses, overdrafts and excess debt service coverage.

# Letter of Transmittal

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## NEW JERSEY WATER SUPPLY AUTHORITY

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Post Office Box 5196 • Clinton, NJ 08809 • (908) 638-6121  
www.njwsa.org Fax • (908) 638-5241

December 2, 2019

### Formal Transmittal of the CAFR

#### [To the Commissioners of the New Jersey Water Supply Authority](#)

The Comprehensive Annual Financial Report of the New Jersey Water Supply Authority ("Authority") for the year ended June 30, 2019 is submitted herewith. Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the Authority. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and are reported in a manner designed to present fairly the Authority's financial position, results of operations, and cash flows in accordance with generally accepted accounting principles. In accordance with these accounting principles, the Authority is a component unit of the State of New Jersey and, as such, is included in the State of New Jersey's Annual Report.

### Profile of the Government

#### [Reporting Entity and its Services](#)

The Authority was created on October 7, 1981 (P.L. 1981, c.293) and was established in but not of the Department of Environmental Protection of the State of New Jersey. This "New Jersey Water Supply Authority Act" established the Authority to acquire, finance, construct, and operate water systems under certain circumstances, and authorizes the issuance of bonds of the Authority.

The Authority operates three separate systems: the Raritan Basin System, the Manasquan Water Supply System, and the Manasquan Water Treatment Plant and Transmission System. The Manasquan Water Treatment Plant and Transmission System is owned by the Southeast Monmouth Municipal Utilities Authority ("SMMUA"), and is operated and maintained by the Authority under the terms of an operating agreement. Each of these systems provides sufficient revenues to cover their own operating expenses, and each System's debt service.

A seven member Board of Commissioners governs the Authority. The Authority's Executive Director heads a full-time staff of professional, technical, and operational personnel totaling 117 employees, consisting of 90 employees of the Raritan Basin System and 27 employees of the Manasquan Reservoir System.

The meetings of the Authority are normally scheduled for the first working Monday of each month. Four members of the Authority constitute a quorum at any meeting. Action may be taken, and motions and resolutions adopted by the Authority at any meeting by the affirmative vote of at least four members of the Authority. All meetings held by the Authority are in accordance with the Open Public Meetings Act, which requires that all meetings of public bodies be open to the public.

## Accounting System and Budgetary Control

The Authority's financial statements are prepared in accordance with generally accepted accounting principles. The Authority operates and reports as a single enterprise fund utilizing the accrual basis of accounting. The enterprise fund concept is similar to how private business enterprises are financed and operated. The intent is that the costs of providing service to water users on a continuing basis be financed primarily through user charges.

In an effort to ensure compliance with the Authority's By-Laws and to safeguard its assets, an internal control structure has been developed and implemented by management. The internal control structure is outlined in Accounting Policies and Procedures Manuals maintained by the Authority and include: description of methods, procedures and accounting principles to be followed with explanations and examples of principal transactions; standards setting out authorization levels for expenditure of Authority funds and very specific procedures to follow when executing purchase orders, receiving goods and payment for services; separation of accounts payable and receivable function; limitations on access to the vendor management system; bank reconciliation review; controls over deposits and generation of automated and manual checks. The internal control structure also includes approved organization structures, and approved budgets for capital and operating expenditures.

The Authority's By-Laws also set out standards for procurement, which have been codified in policies and procedures. The standards include a threshold, after which the Board of Directors must approve all transactions. The Authority is in compliance with Executive Order No. 37 (2006) with respect to procurement, and has amended its procedures to ensure 100 percent compliance.

To the best of our knowledge and belief, the Authority followed all of its standards, procedures and internal control safeguards for the year in question. Because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements.

The Authority adopts an annual budget for its operations and establishes water rates accordingly.

## **Information Useful in Assessing the Government's Economic Condition**

### Financial Position

The total assets of the Authority as of June 30, 2019 were \$290,271,561, an increase of 7.2 percent over the previous year's total of \$270,881,557. Net capital assets increased by \$9,560,596, or 6.6 percent, from \$144,437,281 to \$153,997,877.

The total of cash, cash equivalents and investments for the Authority increased \$4,944,999, or 6.6 percent, from \$74,502,082 to \$79,447,081. The increase is mainly the result of cash raised related to the debt service component of rates in the Raritan system. Current liabilities decreased \$1,746,602, or 10.8 percent, from \$16,190,347 to \$14,443,745 due primarily to a decrease in accounts payable. Total non-current liabilities increased from \$162,703,934 to \$163,822,237 or .7 percent. The increase is primarily due to the issuance of debt to finance the Round Valley Reservoir Structures Refurbishment and Resource Preservation Project, partially offset by a decrease in the pension and OPEB liabilities. Total Net Position of the Authority increased \$9,362,918, or 10.6 percent, from \$88,423,257 to \$97,786,175.

Total Operating Revenue increased by \$30,096 or .09 percent, from \$32,673,268 to \$32,703,364. Total Operating Expenses decreased \$1,671,031, or 6.7 percent, from \$25,036,260 to \$23,365,229, primarily due



to a decrease in the Authority's portion of OPEB and pension expense as allocated by the State of New Jersey. Non-operating Revenue increased \$721,414 or 128.8 percent, from \$559,918 to \$1,281,332, reflecting increases in investment and grant income. Non-operating expenses increased \$238,771, or 23.5 percent, from \$1,017,778 to \$1,256,549 primarily due to an increase in cost recovery related deferred inflows of resources.

### Independent Audit

In accordance with the "New Jersey Water Supply Authority Act" (P.L. 1981, c.293), before the last day of February, an Annual Report of the Authority's activities of the preceding calendar year is due to the Governor and the Legislature. This Annual Report must include an audit of the Authority's books and accounts. Mercadien, P.C. was retained to perform an audit of the 2019 Fiscal Year in accordance with Auditing Standards generally accepted in the United States and *Government Auditing Standards* issued by the Comptroller General of the United States. In June 1999, the GASB adopted their Statement No. 34, *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments*. The Authority adopted GASB Statement No. 34 in Fiscal Year 2001, including the Management's Discussion and Analysis ("MD&A"). The MD&A is considered to be required supplemental data and precedes the financial statements. This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The Authority's MD&A can be found immediately following the Report of the Independent Auditors. Mercadien, P.C. reports directly to the Audit Committee of the Board of Commissioners. Mercadien, P.C. also issued, as part of the annual audit, a report on internal control and compliance.

The Authority has previously established rates, and intends to continue establishing rates on the basis of its cash needs in any

fiscal year to meet its requirements for Operations and Maintenance Expenses, Debt Service, Capital Fund and the Source Water Component.

### Awards and Acknowledgements

#### Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada ("GFOA") has awarded a Certificate of Achievement for Excellence in Financial Reporting to the New Jersey Water Supply Authority for its Comprehensive Annual Financial Report for 26 consecutive years through FY2017.

In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Comprehensive Annual Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. The Authority submitted an application for FY2018 in June of 2019. It is the Authority's intention to submit the FY2019 Comprehensive Annual Financial Report to the GFOA in December of 2019.

#### Acknowledgements

The preparation of this report on a timely basis could not be accomplished without the efficient and dedicated services of the Financial and Accounting staff of the New Jersey Water Supply Authority. Any financial report is also only as good as the accounting records that supply its supporting data. The Authority's entire staff deserves recognition for their dedication, perseverance and attention to detail that result in the Authority's records being kept in a manner which reflects credit on the staff as a unit as well as each employee individually.

## Economic Outlook

The continuing economic viability of the Authority is ensured by the water contracts the Authority maintains with our water users. The water users have entered into long-term contracts for a supply of water for their respective systems, which they are authorized to continuously withdraw without interruption, for potable or industrial water supply purposes. During Fiscal Year 2019, the Authority supplied water to 32 contractual customers of the Raritan Basin System, which provided water to approximately 1,500,000 people in central New Jersey, and 13 contractual customers of the Manasquan System, which provides water to approximately 250,000 people in the Monmouth County area. Two customers accounted for approximately 84 percent of total Raritan Basin System operating revenues. Three customers accounted for approximately 85 percent of total Manasquan System operating revenues.

The total sales base for the Raritan Basin System remained the same at 182.353 million gallons per day for fiscal year 2019, and the total sales base for the Manasquan Reservoir System remained the same at 19.443 million gallons per day. We are expecting our major water customers in both Systems to continue to maintain their approximate contractual water allocations in

the future. Payments for uninterruptible service are based upon the mgd amount specified in each water user contract, and are payable to the Authority whether or not the water user actually withdraws the full amount of water available as defined in the contract as daily uninterruptible service.



Beth Gates  
Executive Director



Susan Buckley  
Director, Finance & Administration



Rita Shaw  
Controller

# Financial Section

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Report of Independent Auditors

Management's Discussion and Analysis

Basic Financial Statements

Statements of Net Position

Statements of Revenues, Expenses and  
Changes in Net Position

Statements of Cash Flows

Notes to Financial Statements

Combining Statements and Schedule

**NEW JERSEY WATER SUPPLY AUTHORITY  
(A COMPONENT UNIT OF THE STATE OF NEW JERSEY)**

**FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION  
JUNE 30, 2019**

## **INDEPENDENT AUDITORS' REPORT**

To the Commissioners of  
New Jersey Water Supply Authority

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the business-type activities of the New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey, as of and for the years ended June 30, 2019 and 2018, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

## **INDEPENDENT AUDITORS' REPORT (CONTINUED)**

### **Opinions**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities of the Authority as of June 30, 2019 and 2018, and the changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

### **Other Matters**

#### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary schedules, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### *Other Supplementary Information*

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise the Authority's basic financial statements. The other supplementary information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The other supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

## INDEPENDENT AUDITORS' REPORT (CONTINUED)

### **Other Reporting Required by *Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated October 16, 2019, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

*Mercedien, P.C.*  
*Certified Public Accountants*

October 16, 2019

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MANAGEMENT'S DISCUSSION AND ANALYSIS

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Year Ended June 30, 2019

This section of the Annual Financial Report of the New Jersey Water Supply Authority (the "Authority"), a Component Unit of the State of New Jersey, presents discussion and analysis of the Authority's financial performance during the fiscal years ended June 30, 2019 and June 30, 2018. Please read it in conjunction with the Authority's basic financial statements and accompanying notes.

**FINANCIAL HIGHLIGHTS – FISCAL YEAR 2019**

- Operating revenue for fiscal year 2019 was \$32.7 million, a .09% increase over fiscal year 2018, which was the result of a .3% increase in Raritan sales and a .5% decrease in Manasquan sales. In the Raritan Basin System, rates remained at \$336.00 per million gallons, and the sales base remained at 182.353 million gallons per day ("mgd"). In the Manasquan Reservoir System, rates remained at \$1,043.35 per million gallons. The fiscal year 2019 sales base remained at 19.443mgd.
- Unrestricted cash and cash equivalents for fiscal year 2019 were \$46.9 million, a decrease of 2.7% compared to fiscal year 2018. Income from operations increased for the Raritan System 27.9% and increased 2.7% for the Manasquan System.
- Total liabilities for fiscal year 2019 were \$178.3 million. This is a decrease of .4% from fiscal year 2018 and includes the June 2019 interim financing in the amount of \$15.2 million with the New Jersey Infrastructure Bank for the Round Valley Reservoir Structures Refurbishment and Resource Preservation Project in the Raritan Basin System and a reduction in the Postemployment Benefits Other Than Pensions (OPEB) liability and pension liability.
- Total operating expenses for fiscal year 2019 decreased to \$23.4 million, which represents a 6.7% decrease from fiscal year 2018. Payroll increased 1.7% due to negotiated union contract increases and the filling of funded vacancies. Fringe benefits decreased 20.9% due largely to reduced OPEB and pension expenses. Direct operations and maintenance expenses decreased 8.3% to \$5.2 million, primarily due to a decrease in expenses related to treatment of invasive plant species in the Delaware and Raritan Canal.
- Other changes for fiscal year 2019 include the following: non-operating revenue increased 128.8% to \$1.3 million; investment income increased 127.0% because of an increase in fair market valuations and improved earnings on bank deposits. The receipt of grant program reimbursement increased 46.8% from the previous year, and other income increased because of an increase in the gain on disposal of assets.
- Non-operating expenses for fiscal year 2019 increased 23.5% to \$1.3 million. The interest component of debt service decreased 27.9% with the continued pay-down of the system debt. There was an increase in the reduction in costs to be recovered from future revenue, (deferred inflows of resources) and the change in the rate model is outlined in Note B to the basic financial statements.



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MANAGEMENT'S DISCUSSION AND ANALYSIS

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Year Ended June 30, 2019

FINANCIAL HIGHLIGHTS – FISCAL YEAR 2018

- Operating revenue for fiscal year 2018 was \$32.7 million, a 16.5% increase over fiscal year 2017, which was the result of a 31.2% increase in Raritan, and an 8.3% decrease in Manasquan sales. In the Raritan Basin System, rates increased to \$336.00 per million gallons, and the sales base increased slightly to 182.353 million gallons per day (“mgd”). In the Manasquan Reservoir System, rates decreased to \$1,043.35 per million gallons. The fiscal year 2018 sales base remained at 19.443mgd.
- Unrestricted cash and cash equivalents for fiscal year 2018 were \$48.2 million, an increase of 8.5% over fiscal year 2017. Income from operations increased for the Raritan System 1150.1% and decreased 21.6% for the Manasquan System.
- Total liabilities for fiscal year 2018 were \$178.9 million. This is an increase of 30.5% from fiscal year 2017 and reflects the February 2018 interim financing in the amount of \$49.5 million with the New Jersey Infrastructure Bank for the D&R Canal Dredging Project in the Raritan Basin System less the change in the total OPEB liability from \$37 million to \$33.5 million.
- Total operating expenses for fiscal year 2018 increased to \$25.0 million, which represents a 1.4% increase from fiscal year 2017. Payroll increased 6.1% because of retroactive cost of living and step increments awarded to union employees and the filling of funded vacancies. Fringe benefits decreased 9.1% due largely to one-time recognition of pension expense in 2017, which was partially offset by recognition of additional OPEB expense in connection with implementation of GASB Statement No. 75. Direct operations and maintenance expenses increased 10.3% to \$5.7 million.
- Other changes for fiscal year 2018 include the following: non-operating revenue increased 19167.7% to \$559.9 thousand; investment income increased 2044.4% because of a fiscal year 2017 arbitrage payment made in connection with the 2016 bond refunding. The receipt of grant program reimbursement decreased 81.7% from the previous year, and other income increased because of a one-time repayment to FEMA in fiscal year 2017 of funds that had already been reimbursed by the Authority’s insurance.
- Non-operating expenses for fiscal year 2018 increased 150.2% to \$1.0 million. The interest component of debt service decreased 4.5% with the continued pay-down of the system debt. There was an increase in the reduction in costs to be recovered from future revenue, (deferred inflows of resources) and the change in the rate model is outlined in Note B to the basic financial statements.



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MANAGEMENT'S DISCUSSION AND ANALYSIS

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Year Ended June 30, 2019

OVERVIEW OF THE FINANCIAL STATEMENTS

The annual financial report consists of two parts: Management's Discussion and Analysis (this section) and the financial statements. The Authority is a self-supporting entity and follows enterprise fund accounting. The enterprise fund concept is similar to the manner in which private business enterprises are financed and operated. The Authority presents its financial statements on the accrual basis of accounting. The statements offer short and long-term financial information about the activities and operations of the Authority. The intent is that the costs of providing service to water users on a continuing basis are financed primarily through user charges. The Authority has established certain restricted "funds or accounts," as directed by internal resolution and bond indentures. In an effort to ensure compliance with the Authority's by-laws and to safeguard its assets, internal controls have been developed and implemented by management. These internal controls include policies, procedures, approved organizational structures and approved budgets for capital and operating expenditures.

FINANCIAL ANALYSIS OF THE AUTHORITY

The Authority's total net position was approximately \$97.8 million as of June 30, 2019. In fiscal year 2019, total assets and deferred outflows increased 6.8% to \$297.2 million, primarily due to investments in capital assets and an increase in restricted cash related to the Raritan system debt service rate component. Total liabilities decreased .4% to \$178.3 million. Total net position as of June 30, 2018 was approximately \$88.4 million. Total assets and deferred outflows at June 30, 2018 increased 27.3% to \$278.3 million, primarily due to an increase in accounts receivable related to the 2018 interim financing for the Raritan Basin Canal Dredging Project. Total liabilities increased 30.5% to \$178.9 million, due to an increase in the non-current portion of bonds, notes and loans payable related to the interim financing for the Raritan Basin Canal Dredging Project and recognition of the OPEB liability. Total net position as of June 30, 2017 was \$81.2 million. Changes in assets, liabilities and net position at June 30, 2019, 2018 and 2017 are summarized in the following table:



MANAGEMENT'S DISCUSSION AND ANALYSIS

Year Ended June 30, 2019

	2019	2018	2017	Percentage Change 2019-2018	Percentage Change 2018-2017
<b>Assets and deferred outflows of resources</b>					
Current assets	\$ 126,825,401	\$ 115,729,179	\$ 58,452,649	9.59 %	97.99 %
Capital assets, net	153,997,877	144,437,281	139,466,728	6.62	3.56
Other non-current assets	9,448,283	10,715,097	11,104,025	(11.82)	(3.50)
Total assets	290,271,561	270,881,557	209,023,402	7.16	29.59
Deferred outflows of resources	6,967,231	7,402,086	9,612,405	(5.87)	(22.99)
<b>Total assets and deferred outflows of resources</b>	<b>297,238,792</b>	<b>278,283,643</b>	<b>218,635,807</b>	<b>6.81</b>	<b>27.28</b>
<b>Liabilities, deferred inflows of resources, and net position</b>					
Current liabilities	14,443,745	16,190,347	8,585,118	(10.79)	88.59
Non-current liabilities	46,735,071	56,508,420	67,630,932	(17.30)	(16.45)
Non-current portion of bonds, notes and loans payable	117,087,166	106,195,514	60,835,554	10.26	74.56
Total liabilities	178,265,982	178,894,281	137,051,604	(0.35)	30.53
Deferred inflows of resources	21,186,635	10,966,105	340,094	93.20	3,124.43
Net investment in capital assets	57,912,526	59,275,272	61,887,512	(2.30)	(4.22)
Restricted for debt service	20,058,979	13,434,461	7,262,065	49.31	85.00
Unrestricted	19,814,670	15,713,524	12,094,532	26.10	29.92
Total net position	\$ 97,786,175	\$ 88,423,257	\$ 81,244,109	10.59	8.84
<b>Total liabilities, deferred inflows of resources, and net position</b>	<b>\$ 297,238,792</b>	<b>\$ 278,283,643</b>	<b>\$ 218,635,807</b>	<b>6.81</b>	<b>27.28</b>



MANAGEMENT'S DISCUSSION AND ANALYSIS

Year Ended June 30, 2019

OPERATING ACTIVITIES

The Authority operates three separate systems: the Raritan Basin System, the Manasquan Water Supply System, and the Manasquan Water Treatment Plant and Transmission System. The Manasquan Water Treatment Plant and Transmission System is owned by the Southeast Monmouth Municipal Utilities Authority, which sets the rates, and is operated and maintained by the Authority under the terms of an operating agreement. Each system must generate sufficient revenue each year to cover its own operating expenses and debt service. The following rates were adopted at the May 2019 and June 2018 Authority meetings, respectively, based on anticipated operating expenses:

	<b>Rate Effective <u>7/01/2019</u></b>	<b>Rate Effective <u>7/01/2018</u></b>	<b>Percent <u>Change</u></b>
Raritan Basin System	\$ 336.00/mg	\$ 336.00/mg	0 %
Manasquan Water Supply System			
Initial users	\$1,043.35/mg	\$1,043.35/mg	0 %
Delayed water users	\$1,137.76/mg	\$1,137.76/mg	0 %

The Authority's total operating revenue for fiscal year 2019 was \$32.7 million, an increase of .09% from fiscal year 2018, due to a .3% increase in Raritan water sales and a .5% decrease in Manasquan water sales. The Authority's total operating expenses for fiscal year 2019 were \$23.4 million, a decrease of 6.7% from fiscal year 2018, mainly because of a decrease in fringe benefit expense. The Authority's total operating revenue for fiscal year 2018 was \$32.7 million, an increase of 16.5% from fiscal year 2017. The Authority's total operating expenses for fiscal year 2018 were \$25.0 million, an increase of 1.4% from fiscal year 2017. The following table summarizes the changes in revenue, expenses and net position between fiscal years 2019, 2018 and 2017:



MANAGEMENT'S DISCUSSION AND ANALYSIS

Year Ended June 30, 2019

	2019	2018	2017	Percentage Change 2019-2018	Percentage Change 2018-2017
<b>Operating revenues:</b>					
Water sales	\$ 30,060,964	\$ 30,030,868	\$ 25,394,799	0.10 %	18.26 %
Reimbursement of operating expenses	2,642,400	2,642,400	2,642,400	-	-
Total operating revenues	<u>32,703,364</u>	<u>32,673,268</u>	<u>28,037,199</u>	0.09	16.54
<b>Non-operating revenues:</b>					
State of New Jersey - Grant Programs	46,130	31,422	171,310	46.81	(81.66)
Investment income and interest income	1,111,940	489,763	(25,188)	127.04	2,044.43
Rental income	57,179	49,565	49,606	15.36	(0.08)
Other income	66,083	(10,832)	(192,822)	710.07	94.38
Total non-operating revenues	<u>1,281,332</u>	<u>559,918</u>	<u>2,906</u>	128.84	19,167.65
Total revenues	<u>33,984,696</u>	<u>33,233,186</u>	<u>28,040,105</u>	2.26	18.52
<b>Operating expenses:</b>					
Payroll	8,014,260	7,882,193	7,425,938	1.68	6.14
Operations and maintenance	5,224,452	5,697,087	5,165,250	(8.30)	10.30
Fringe benefits	5,393,499	6,819,571	7,498,085	(20.91)	(9.05)
Depreciation	4,733,018	4,637,409	4,596,764	2.06	0.88
Total operating expenses	<u>23,365,229</u>	<u>25,036,260</u>	<u>24,686,037</u>	(6.67)	1.42
<b>Non-operating expenses:</b>					
Interest component of debt service to the State of New Jersey	320,110	444,018	464,824	(27.91)	(4.48)
Bond discount/insurance premium expense	-	-	12,491	-	(100.00)
Recovery of deferred inflows of resources	936,439	573,760	(2,502,694)	63.21	122.93
Total non-operating expenses	<u>1,256,549</u>	<u>1,017,778</u>	<u>(2,025,379)</u>	23.46	150.25
Total Expenses	<u>24,621,778</u>	<u>26,054,038</u>	<u>22,660,658</u>	(5.50)	14.97
Changes in net position	<u>9,362,918</u>	<u>7,179,148</u>	<u>5,379,447</u>	30.42	33.46
Net position, beginning of year, as restated	<u>88,423,257</u>	<u>81,244,109</u>	<u>113,608,747</u>	8.84	(28.49)
Net position, end of year, as previously reported	<u>97,786,175</u>	<u>88,423,257</u>	<u>118,988,194</u>	10.59	(25.69)
GASB 75 adjustment	-	-	(37,744,085)	(100.00)	(100.00)
Net position, end of year, as restated	<u>\$ 97,786,175</u>	<u>\$ 88,423,257</u>	<u>\$ 81,244,109</u>	10.59	8.84

See accompanying notes.

**CAPITAL ASSETS AND DEBT ADMINISTRATION**

At June 30, 2019, the Authority had a total of \$153,997,877 invested in the Systems that it operates: \$101,824,971 invested in the Raritan Basin System, and \$52,172,906 invested in the Manasquan System. This total amount represents a 6.6% increase from last year. At June 30, 2018, the Authority had a total of \$144,437,281 invested in the Systems that it operates: \$90,438,403 invested in the Raritan Basin System, and \$53,998,878 invested in the Manasquan System. This total amount represents a 3.6% increase from the prior year.



MANAGEMENT'S DISCUSSION AND ANALYSIS

Year Ended June 30, 2019

The following table summarizes the changes in capital assets, net of depreciation, between fiscal years 2019, 2018 and 2017:

	2019	2018	2017	Percentage Change 2019-2018	Percentage Change 2018-2017
Land and land rights	\$ 26,444,952	\$ 26,444,952	\$ 26,444,952	- %	- %
Dams	45,811,031	46,609,025	47,407,020	(1.71)	(1.68)
Building, structures and improvements	50,298,692	53,827,471	54,876,544	(6.56)	(1.91)
Machinery and equipment	1,706,230	1,425,417	1,411,333	19.70	1.00
Construction work in progress	29,736,972	16,130,416	9,326,879	84.35	72.95
Total capital assets	\$ 153,997,877	\$144,437,281	\$139,466,728	6.62	3.56

More detailed information about the Authority's capital assets is presented in Note C to the basic financial statements.

The following table summarizes the changes in capital debt between fiscal years 2019, 2018 and 2017:

	2019	2018	2017	Percentage Change 2019-2018	Percentage Change 2018-2017
Bonds payable	\$ 12,619,179	\$ 15,748,257	\$ 18,802,335	(19.87) %	(16.24) %
Notes payable	33,566,892	33,566,892	33,566,892	-	-
Loans payable	74,976,680	60,811,617	12,318,018	23.29	393.68
Total	\$ 121,162,751	\$110,126,766	\$ 64,687,245	10.02	70.24

At year-end, the Authority had \$121,162,751 in bonds, notes and loans principal outstanding, compared to \$110,126,766 at June 30, 2018. This change represents an increase of 10.0%. The change in bonds, notes and loans principal outstanding at June 30, 2018, compared to the total of \$64,687,245 at June 30, 2017, represents an increase of 70.2%, as shown in the above table.

More detailed information about the Authority's long-term debt is presented in Note E to the basic financial statements.



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MANAGEMENT'S DISCUSSION AND ANALYSIS

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Year Ended June 30, 2019

CURRENT AND NEW BUSINESS

During fiscal year 2019, the Authority supplied water to 32 contractual customers of the Raritan Basin System, who, in turn, supplied water to approximately 1,500,000 people in central New Jersey. Two customers accounted for approximately 84% of total Raritan Basin System operating revenue. There was a no change in the sales base of the Raritan Basin System of 182.353 mgd in fiscal year 2019. In addition, during fiscal year 2019, the Authority provided water to 13 contractual customers of the Manasquan Water Supply System, who provided water to approximately 250,000 people in the Monmouth County area. During fiscal years 2019 and 2018, three customers accounted for approximately 85% of the total Manasquan System operating revenue. There is no expected change in the sales base of the Manasquan Water Supply system of 19.443 mgd in fiscal year 2020.

CONTACTING THE AUTHORITY'S FINANCIAL MANAGEMENT

This financial report is designed to provide the water customers, New Jersey citizens, investors and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability as a self-supporting entity. The Authority's overall financial position has improved; total net position has increased and the Authority continues to receive favorable bond ratings. If you have questions about this report or need additional financial information, you can contact the New Jersey Water Supply Authority at 1851 Highway 31, P.O. Box 5196, Clinton, New Jersey 08809, (908) 638-6121 or visit our website at [www.njwsa.org](http://www.njwsa.org).



## **BASIC FINANCIAL STATEMENTS**

**NEW JERSEY WATER SUPPLY AUTHORITY**  
**A COMPONENT UNIT OF THE STATE OF NEW JERSEY**  
**STATEMENTS OF NET POSITION**

	June 30,	
	2019	2018*
<b>Assets</b>		
Current assets:		
Unrestricted assets:		
Cash and cash equivalents	\$ 46,855,543	\$ 48,177,628
Unbilled sales	1,493,831	1,501,023
Accounts receivable, less allowance for doubtful accounts of \$1,000 at June 30, 2019 and 2018	54,096,481	49,295,613
Interest receivable	160,219	167,778
Prepaid expenses and other current assets	1,076,072	977,780
Total unrestricted current assets	<u>103,682,146</u>	<u>100,119,822</u>
Restricted assets:		
Cash equivalents	23,143,255	15,609,357
Total current assets	<u>126,825,401</u>	<u>115,729,179</u>
Non-current assets:		
Investments	9,448,283	10,715,097
Capital assets, net	153,997,877	144,437,281
Total non-current assets	<u>163,446,160</u>	<u>155,152,378</u>
Total assets	<u>290,271,561</u>	<u>270,881,557</u>
Deferred outflows of resources		
Pension related	5,501,791	6,905,770
OPEB related	824,121	5,736
2018 construction loan DEP fee	641,319	490,580
Total deferred outflows of resources	<u>6,967,231</u>	<u>7,402,086</u>
Total assets and deferred outflows of resources	<u>\$ 297,238,792</u>	<u>\$ 278,283,643</u>
<b>Liabilities</b>		
Current liabilities:		
Current portion of bonds, notes and loans payable	4,075,585	3,931,252
Accounts payable	4,743,219	7,305,033
Accrued liabilities	2,540,665	2,779,166
Unearned revenue	3,084,276	2,174,896
Total current liabilities	<u>14,443,745</u>	<u>16,190,347</u>
Non-current liabilities:		
Non-current portion of bonds, notes and loans payable	117,087,166	106,195,514
Net pension liability	19,884,740	23,038,776
Total OPEB liability	26,850,331	33,469,644
Total non-current liabilities	<u>163,822,237</u>	<u>162,703,934</u>
Total liabilities	<u>178,265,982</u>	<u>178,894,281</u>
Deferred inflows of resources:		
Cost recovery	(69,904)	(567,296)
Pension related	7,141,533	5,345,883
OPEB related	13,629,222	5,589,091
Gain on refunding	485,784	598,427
Total deferred inflows of resources	<u>21,186,635</u>	<u>10,966,105</u>
Total liabilities and deferred inflows of resources	<u>199,452,617</u>	<u>189,860,386</u>
<b>Net Position</b>		
Net investment in capital assets	57,912,526	59,275,272
Restricted for debt service	20,058,979	13,434,461
Unrestricted	19,814,670	15,713,524
Total net position	<u>97,786,175</u>	<u>88,423,257</u>
<b>Total liabilities, deferred inflows of resources, and net position</b>	<u>\$ 297,238,792</u>	<u>\$ 278,283,643</u>

\*Certain balances have been reclassified to conform to current year presentation.  
See accompanying notes.

**NEW JERSEY WATER SUPPLY AUTHORITY**  
**A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	<b>Years Ended June 30,</b>	
	<b>2019</b>	<b>2018</b>
Operating revenues:		
Water sales	<b>\$ 30,060,964</b>	\$ 30,030,868
Reimbursement of operating expenses	<b>2,642,400</b>	2,642,400
Total operating revenues	<b>32,703,364</b>	32,673,268
Operating expenses:		
Payroll	<b>8,014,260</b>	7,882,193
Operations and maintenance	<b>5,224,452</b>	5,697,087
Fringe benefits	<b>5,393,499</b>	6,819,571
Depreciation	<b>4,733,018</b>	4,637,409
Total operating expenses	<b>23,365,229</b>	25,036,260
Income from operations	<b>9,338,135</b>	7,637,008
Non-operating revenues:		
State of New Jersey - Grant Programs	<b>46,130</b>	31,422
Investment income and interest income	<b>1,111,940</b>	489,763
Rental income	<b>57,179</b>	49,565
Other income	<b>66,083</b>	(10,832)
Total non-operating revenues	<b>1,281,332</b>	559,918
Non-operating expenses:		
Interest component of debt service to the State of New Jersey	<b>320,110</b>	444,018
Recovery of deferred inflows of resources	<b>936,439</b>	573,760
Total non-operating expenses	<b>1,256,549</b>	1,017,778
Changes in net position	<b>9,362,918</b>	7,179,148
Net position, beginning of year	<b>88,423,257</b>	81,244,109
Net position, end of year	<b>\$ 97,786,175</b>	\$ 88,423,257

*See accompanying notes.*

**NEW JERSEY WATER SUPPLY AUTHORITY**  
**A COMPONENT UNIT OF THE STATE OF NEW JERSEY**  
**STATEMENTS OF CASH FLOWS**

	Years Ended June 30,	
	<u>2019</u>	<u>2018*</u>
<b>Cash flows from operating activities</b>		
Cash received from water sales	\$ 28,746,966	\$ 29,965,054
Cash received from reimbursable expenses	2,656,085	2,591,994
Cash received from rental income	114,201	36,533
Cash paid to or on behalf of employees	(12,937,912)	(12,128,509)
Cash paid to suppliers	(5,383,309)	(5,402,207)
Net cash provided by operating activities	<u>13,196,031</u>	<u>15,062,865</u>
<b>Cash flows from noncapital financing activities</b>		
Cash received for grant programs	27,377	31,422
Net cash provided by non-capital financing activities	<u>27,377</u>	<u>31,422</u>
<b>Cash flows from capital and related financing activities</b>		
Proceeds from borrowing	11,614,705	-
Principal paid on bonds, notes and loans	(3,824,376)	(4,847,782)
Interest paid on bonds, notes and loans	(373,284)	(472,615)
Acquisition and construction of capital assets	(16,879,143)	(691,954)
Proceeds from sale of capital assets	64,190	(12,550)
Net cash used in capital and related financing activities	<u>(9,397,908)</u>	<u>(6,024,901)</u>
<b>Cash flows from investing activities</b>		
Sale of investment securities	6,058,000	245,000
Purchase of investment securities	(5,220,924)	88,209
Interest received on investments	1,119,499	492,593
Premium on matured investments	429,738	55,719
Net cash provided/(used) by investing activities	<u>2,386,313</u>	<u>881,521</u>
Net increase in cash and cash equivalents	6,211,813	9,950,907
Cash and cash equivalents, beginning of year	63,786,985	53,836,078
Cash and cash equivalents, end of year	<u>\$ 69,998,798</u>	<u>\$ 63,786,985</u>
Reconciliation of income from operations to net cash provided by operating activities:		
Income from operations	9,338,135	7,637,008
Adjustments to reconcile income from operations to net cash provided by operating activities:		
Cash received for operating activity included in other income	59,072	51,283
Depreciation	4,733,018	4,637,409
Increase (decrease) in cash from:		
Unbilled sales	7,192	(326,326)
Accounts receivable	(1,311,644)	207,193
Prepaid expenses and other current assets	(98,292)	22,733
Accounts payable	12,395	274,457
Accrued liabilities	(1,551)	9,487
Accrued payroll and taxes	(190,320)	561,651
Net pension liability	45,593	679,057
Net OPEB liability	602,433	1,308,913
Net cash provided by operating activities	<u>\$ 13,196,031</u>	<u>\$ 15,062,865</u>
<b>Non-cash investing activities</b>		
Decrease in fair value of investments	<u>\$ (267,813)</u>	<u>\$ (383,171)</u>

\* Certain balances have been reclassified to conform to current year presentation.  
See accompanying notes.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS

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**A. ORGANIZATION AND OPERATIONS**

The New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey (the "State"), consisting of the Spruce Run/Round Valley Reservoirs Complex, the Delaware and Raritan Canal Transmission Complex (the "Raritan Basin System") and the Manasquan Reservoir Water Supply System (the "Manasquan System"), is a public body, corporate and politic, constituted as an instrumentality of the State, exercising public and essential governmental functions. The Authority was created by the New Jersey Water Supply Authority Act (the "Act") on October 7, 1981, and in connection with the Act, all water supply facilities owned or operated by the State (*i.e.*, *Raritan Basin System*) were transferred or leased to the Authority. The Act empowers the Authority to acquire, finance, construct and operate water systems and issue bonds. Members of the Authority consist of the Commissioner of the New Jersey Department of Environmental Protection ("NJDEP"), *ex officio* member and six public members appointed by the Governor upon the advice and consent of the New Jersey Senate. The public members represent the agricultural community, industrial water users, residential water users, private watershed associations, public finance and water resource management and distribution. The Authority prepares an annual budget that is used to establish rates and as a management tool but the budget does not constitute a legal budget or establish spending limitations.

The Authority does not have component units that should be included within its financial statements.

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Accounting**

The Authority is a component unit of the State of New Jersey and is included in their general purpose financial statements.

The accompanying basic financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board ("GASB").

In its accounting and financial reporting, the Authority follows the pronouncements of the GASB and other entities that promulgate accounting principles. GASB Statement 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*, establishes the order of priority of pronouncements and other sources of accounting and financial reporting guidance that a governmental entity should apply. Per the Statement, the sources of authoritative generally accepted accounting principles ("GAAP") are categorized in descending order of authority as follows: GASB Statements and Interpretations, GASB Technical Bulletins, GASB Implementation Guides, and literature of the American Institute of Certified Public Accountants ("AICPA") cleared by the GASB. Authoritative GAAP is incorporated periodically into the Codification of Governmental Accounting and Financial Reporting Standards (Codification), and when presented in the Codification, it retains its authoritative status. If the accounting treatment for a transaction or other event is not specified within a source of authoritative GAAP described above, a governmental entity should first

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Basis of Accounting (CONTINUED)**

consider accounting principles for similar transactions or other events within a source of authoritative GAAP described above and then may consider nonauthoritative accounting literature from other sources. These include GASB Concepts Statements; pronouncements and other Statements, pronouncements and other literature of the Financial Accounting Standards Board ("FASB"), Federal Accounting Standards Advisory Board, International Public Sector Accounting Standards Board, and International Accounting Standards Board, and AICPA literature not cleared by the GASB; practices that are widely recognized and prevalent in state and local government; literature of other professional associations or regulatory agencies; and accounting textbooks, handbooks and articles.

The Authority derives most of its revenue from water user charges and is considered to be an enterprise fund; accordingly, the Authority presents its financial statements on the accrual basis of accounting. In addition, the Authority has established certain restricted "funds or accounts" as directed by internal resolution and bond indentures.

**Revenue**

Charges for wholesale water usage are established to provide revenue sufficient for services, essential repairs and improvements to the utility plant, and repayment of debt service on certain long-term obligations used for plant construction. Sales are recognized as revenue when water is made available to customers, and the customers are billed in the following month or quarter.

The Authority distinguishes operating revenue and expenses from non-operating items. Operating revenue and expenses result from the sale of water to customers. Operating expenses include costs of providing water, administrative expenses and depreciation on capital assets. All revenue and expenses not meeting this definition are reported as non-operating revenue and expenses.

**Capital Assets**

Capital assets are stated at original cost and consist primarily of amounts expended to license, construct, acquire, complete and place into operation the projects of the Authority. Capital assets are defined by the Authority as assets with an initial individual cost of more than \$1,000 and an estimated useful life in excess of three years. Such expenditures include labor, materials, services and indirect costs. Normal maintenance and repair costs are charged to operations and maintenance expense. Improvements and replacements are capitalized. Interest earned on long-term debt proceeds used for capital asset construction and temporarily invested during the construction period is netted against interest cost. The excess, if any, is capitalized to construction work in progress, and the portion related to completed projects is expensed. The cost of capital assets retired, net of any gain or loss on the disposal of such capital assets, is offset to accumulated depreciation. The Authority also holds several restricted easements for utility access, conservation and water rights. These easements are recorded at the lower of cost or fair market value upon acquisition.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Depreciation**

Capital assets are depreciated on the straight-line basis over the estimated useful lives of the various classes of plant, as follows:

Dams	100 years
Buildings, structures and improvements	15-40 years
D&R canal dredging	20 years
Machinery and equipment	3-10 years

**Cash and Cash Equivalents**

For purposes of the statements of cash flows, the Authority considers short-term investments that have original maturities of ninety days or less to be cash equivalents.

**Investments**

Short-term investments and restricted investments used for construction and payment of interest consist of money market funds and U.S. Government-backed securities with various interest rates. Restricted investments are restricted under the terms of the Authority's bond indentures for the payment of debt service. All investments are carried at fair value, in accordance with GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools* and GASB Statement No. 72, *Fair Value Measurement and Application*.

**Accounts Receivable**

The Authority considers most of its accounts receivable to be collectible; accordingly, the change in net position is charged with an allowance for estimated uncollectible accounts based on past experience and an analysis of current accounts receivable collectability. Accounts deemed uncollectible are charged to the allowance in the year they are deemed uncollectible.

During fiscal year 2019, three customers accounted for approximately 96% of total Raritan Basin System accounts receivable and two customers accounted for approximately 94% of total Manasquan System accounts receivable. During fiscal year 2018, two customers accounted for approximately 84% of total Raritan Basin System accounts receivable and five customers accounted for approximately 90% of total Manasquan System accounts receivable.

**Compensated Absences**

All full-time employees accumulate vacation benefits in varying annual amounts up to a maximum allowable accumulation of two years' benefit. Unused sick leave benefits are earned by all full-time employees at a rate of 15 days per year and may be accumulated without limit. In the event of termination, an employee is reimbursed for all accumulated vacation days. Unused sick leave benefits do not vest but are payable only upon retirement up to a maximum of \$15,000. A liability is accrued in the financial statements when incurred.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

**Income Taxes**

The Authority is exempt from federal income taxes under the Internal Revenue Code, Section 115, and from state income taxes under N.J.S.A. 27:25-16, and accordingly, no provision is recorded for federal or state income taxes.

**Net Position**

Net position represents the difference between assets and liabilities and is classified into three categories:

- *Net Investment in Capital Assets* – This represents capital assets, net of accumulated depreciation, less the outstanding balances of any bonds, notes, or other borrowings that are attributable to the acquisition construction or improvement of those assets.
- *Restricted Net Position (debt service)* – This represents the net position that is not accessible for general use because its use is subject to restrictions enforceable by third parties. When both restricted and unrestricted resources are available for use, it is the Authority's policy to use restricted resources first and then unrestricted resources, as they are needed.
- *Unrestricted Net Position* – This represents the net position that is available for general use.

**Deferred Inflows and Outflows of Resources**

In addition to assets and liabilities, the statements of net position report separate sections of deferred outflows of resources and deferred inflows of resources. Deferred outflows of resources represent a consumption of net position that applies to a future period which will not be recognized as an outflow of resources until that time. Deferred inflows of resources represent an acquisition of net position that applies to a future period which will not be recognized as an inflow of resources until that time.

*Deferred Inflows of Resources – Cost Recovery*

The Authority's cost recovery rate model used to establish rates, fees and charges includes an amount for debt principal repayment (but not for depreciation on the related debt financed assets) and also includes vacation amounts paid. In accordance with GASB No. 62, the Authority has deferred the excess of current depreciation on assets financed with debt proceeds over the costs for debt principal repayment and the excess of vacation expense over vacation paid, and accrued sick pay, which are being classified as deferred inflows of resources. The deferred inflows will be recovered through future revenue in accordance with the rate model. The deferred amounts for the years ended June 30, 2019 and 2018 were determined as follows:



**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Deferred Inflows and Outflows of Resources (Continued)**

<b>Raritan Basin System</b>	<u>2019</u>	<u>2018</u>
Cost excluded from rate model:		
Depreciation of debt-financed capital assets recoverable from rate payers	\$ 835,209	\$ 835,209
Excess vacation expense over vacation paid	13,883	39,416
Accrued sick pay	<u>(7,580)</u>	<u>67,255</u>
	<u>841,512</u>	<u>941,880</u>
Cost included in rate model:		
Debt principal repayment	-	-
	<u>841,512</u>	<u>941,880</u>
 <b>Manasquan System</b>		
Cost excluded from rate model:		
Depreciation of debt-financed capital assets recoverable from rate payers	\$ 1,540,854	\$ 1,540,854
Excess vacation expense over vacation paid	(649)	1,633
Accrued sick pay	<u>891</u>	<u>(8,437)</u>
	<u>1,541,096</u>	<u>1,534,050</u>
Cost included in rate model:		
Debt principal repayment	<u>(2,880,000)</u>	<u>(2,805,000)</u>
	<u>(1,338,904)</u>	<u>(1,270,950)</u>
Total Raritan Basin and Manasquan	<u>(497,392)</u>	<u>(329,070)</u>
Balance, beginning of year	<u>567,296</u>	896,366
Balance, end of year	<u>\$ 69,904</u>	<u>\$ 567,296</u>

As shown in the statements of revenue, expenses and changes in net position for the year ended June 30, 2019, deferred inflows of resources debit balance of \$936,439 includes a debit balance \$432,502 of Manasquan Water Treatment Plant unearned revenue, which is not part of the rate model, and does not include a credit balance of \$6,545 of accrued vacation and sick pay. The June 30, 2018, deferred inflows of resources debit of \$573,760 includes a debit balance of \$144,823 of Manasquan Water Treatment Plant unearned revenue and does not include and a credit balance of \$99,867 of accrued vacation and sick pay.

*Deferred Inflows/Outflow of Resource – Debt Refunding*

Deferred charges for debt refunding result from the difference between the net carrying amount of refunded bonds and the amount deposited to escrow to defease the bonds. In accordance with GASB 23, the Authority has deferred the difference between the reacquisition price and the net carrying amount of the Manasquan Reservoir Water Supply System Revenue Bonds, Series 2005. The deferred amount is reported as a deferred inflow of resources and amortized as a component of interest expense over the remaining life of the Manasquan Reservoir Water Supply System Refunding Bonds, Series 2016.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Deferred Inflows and Outflows of Resources (Continued)**

*Deferred Inflows/Outflow of Resources – Pensions & Other Postretirement Benefits (OPEB)*

Deferred charges for defined benefit plans result from the difference between expected (actuarial) and actual experience, changes in actuarial assumptions, net difference between projected (actuarial) and actual earnings on plan investments, changes in the State's proportion of expenses and liabilities to the plans as a whole, differences between the Authority's plan contributions and its proportionate share of contributions, and the Authority's pension contributions subsequent to the pension valuation measurement date.

**Accounting for Southeast Monmouth Municipal Utilities Authority Agreement**

The Authority operates and maintains a Water Treatment Plant/Transmission System for the Southeast Monmouth Municipal Utilities Authority ("SMMUA"). The SMMUA is charged for budgeted operating expenses expected to be incurred by the Authority during the SMMUA's fiscal year (January 1 through December 31).

Because of the difference resulting from billing the SMMUA for budgeted expenses versus actual expenses appearing in the financial statements, the Authority includes unearned costs (actual costs exceeding SMMUA billings) or unearned revenue (SMMUA billings exceeding actual costs) in its statements of net position. These excess costs or billings will be recovered or recognized in future periods. As of June 30, 2019 and 2018, unearned revenue amounting to \$2,268,289 and \$1,835,787, respectively, was determined as follows:

	<u>2019</u>	<u>2018</u>
Reimbursement of operating expenses	<b>\$ 2,678,716</b>	\$ 2,655,015
Operating expenses	<b>2,246,214</b>	2,510,192
Unearned revenue	<b>432,502</b>	144,823
Balance, beginning of year	<u><b>1,835,787</b></u>	<u>1,690,964</u>
Balance, end of year	<u><b>\$ 2,268,289</b></u>	<u>\$ 1,835,787</u>

In previous years, the Authority received additional funds that are restricted for use by the SMMUA for costs associated in operating the Water Treatment Plant. As of June 30, 2019 and 2018, the amount included in unearned revenue was \$340,987 and \$339,109, respectively.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Accounting for Watershed Protection Program**

For the fiscal years ended June 30, 2019 and 2018, the Authority received \$35,870 and \$186,793, respectively, from the federal and/or state environmental agencies for the costs associated with various watershed protection studies of the Raritan Basin System. These funds are restricted to uses specifically identified in grant agreements between the Authority and these agencies and will be recognized as revenue as the related costs are incurred. Eligible project expenses include, but are not limited to, the cost of mapping out streams and other water sources and studying and implementing best land use practices to improve water quality. As of June 30, 2019, all the funds received had been recognized as revenue.

**C. CAPITAL ASSETS**

Capital assets activity for the years ended June 30, 2019 and 2018 was as follows:

	<b>2019 Beginning Balance</b>	<b>Additions</b>	<b>Retirements</b>	<b>2019 Ending Balance</b>
Capital assets not being depreciated:				
Land	\$ 26,444,952	\$ -	\$ -	\$ 26,444,952
Construction work in progress	16,130,416	13,606,556	-	29,736,972
Total capital assets not being depreciated	42,575,368	13,606,556	-	56,181,924
Capital assets being depreciated:				
Dams	77,369,160	-	-	77,369,160
Building, structures and improvements	142,443,278	9,080	-	142,452,358
D & R Canal dredging	21,160,274	-	-	21,160,274
Machinery and equipment	6,639,585	679,698	(337,541)	6,981,742
Total capital assets being depreciated	247,612,297	688,778	(337,541)	247,963,534
Less accumulated depreciation for:				
Dams	(30,760,135)	(797,994)	-	(31,558,129)
Building, structures and improvements	(88,615,808)	(3,537,858)	-	(92,153,666)
D & R Canal dredging	(21,160,273)	(1)	-	(21,160,274)
Machinery and equipment	(5,214,168)	(397,165)	335,821	(5,275,512)
Total accumulated depreciation	(145,750,384)	(4,733,018)	335,821	(150,147,581)
Total capital assets, being depreciated, net	101,861,913	(4,044,240)	(1,720)	97,815,953
Total net investment in capital assets	\$ 144,437,281	\$ 9,562,316	\$ (1,720)	\$ 153,997,877

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**C. CAPITAL ASSETS (CONTINUED)**

	<b>2018</b>		<b>2018</b>	
	<b>Beginning</b>		<b>Retirements</b>	<b>Ending</b>
	<b>Balance</b>	<b>Additions</b>		<b>Balance</b>
Capital assets not being depreciated:				
Land	\$ 26,444,952	\$ -	\$ -	\$ 26,444,952
Construction work in progress	9,326,879	9,265,054	(2,461,517)	16,130,416
Total capital assets not being depreciated	35,771,831	9,265,054	(2,461,517)	42,575,368
Capital assets being depreciated:				
Dams	77,369,160	-	-	77,369,160
Building, structures and improvements	140,094,325	2,482,861	(133,908)	142,443,278
D & R Canal dredging	21,160,274	-	-	21,160,274
Machinery and equipment	6,443,907	357,145	(161,467)	6,639,585
Total capital assets being depreciated	245,067,666	2,840,006	(295,375)	247,612,297
Less accumulated depreciation for:				
Dams	(29,962,140)	(797,995)	-	(30,760,135)
Building, structures and improvements	(85,217,782)	(3,496,353)	98,327	(88,615,808)
D & R Canal dredging	(21,160,273)	-	-	(21,160,273)
Machinery and equipment	(5,032,574)	(343,061)	161,467	(5,214,168)
Total accumulated depreciation	(141,372,769)	(4,637,409)	259,794	(145,750,384)
Total capital assets, being depreciated, net	103,694,897	(1,797,403)	(35,581)	101,861,913
Total net investment in capital assets	\$ 139,466,728	\$ 7,467,651	\$ (2,497,098)	\$ 144,437,281

**D. CASH, CASH EQUIVALENTS, AND INVESTMENTS\***

New Jersey statutes permit the deposit of public funds in the State of New Jersey Cash Management Fund ("NJCMF") or in institutions located in New Jersey that are insured by the Federal Deposit Insurance Corporation (the "FDIC") or by any other agencies of the United States that insure deposits. All funds of the Authority may be invested in, obligations of, or guaranteed by, the U.S. government.

The Authority's bond resolutions limit the investment of restricted assets to obligations of the U.S. government or its agencies, investments in certain certificates of deposit of commercial banks that are members of the Federal Reserve System, investments in the NJCMF, and direct and general obligations of any state that meets the minimum requirements of the resolution.

1. Cash

As of June 30, 2019 and 2018, the Authority's bank balance was \$70,306,338 and \$63,886,425, respectively, of which \$250,000 was covered through the FDIC. The remaining balance of \$70,056,338 and \$63,636,425 as of June 30, 2019 and 2018, respectively, was collateralized, and the cash balance per the statements of net position is shown exclusive of outstanding checks totaling \$307,840 and \$99,740, respectively. The statement of net position amount includes petty cash totaling \$300 as of June 30, 2019 and 2018, respectively.

\* Certain balances have been reclassified to conform to the current year presentation.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**D. CASH, CASH EQUIVALENTS, AND INVESTMENTS (CONTINUED)\***

2. Custodial Credit Risk – Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the Authority's deposits may not be returned. The Authority does not have a deposit policy for custodial credit risk. The Authority's bank balance of \$70,306,338 and \$63,886,425 as of June 30, 2019 and 2018, respectively, was exposed to custodial credit risk as follows:

	<u>2019</u>	<u>2018</u>
Uninsured and uncollateralized	\$ <u>          -</u>	\$ <u>          -</u>

3. Investments and Cash Equivalents

The Authority does not have a policy to limit interest rate risk; however, its practice is to hold investments to maturity.

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

As of June 30, 2019, the Authority had the following recurring fair value measurements using current sale prices or sale prices of comparable securities for New Jersey General Obligation Bonds (Level 2 inputs) for investments and cash equivalents, and maturities:

Investment and Cash Equivalent Type	Valuation Inputs Level	Fair Value	Investment Maturities (In Years)	
			Less than 1	1-5
NJ G/O Bonds and CDs	Level 2	\$ 9,608,502	\$ 9,514,743	\$ 93,759
<b>Total</b>		<b>\$ 9,608,502</b>	<b>\$ 9,514,743</b>	<b>\$ 93,759</b>

As of June 30, 2018, the Authority had the following recurring fair value measurements using current sale prices or sale prices of comparable securities for New Jersey General Obligation Bonds (Level 2 inputs) for investments and cash equivalents, and maturities:

Investment and Cash Equivalent Type	Valuation Inputs Level	Fair Value	Investment Maturities (In Years)	
			Less than 1	1-5
NJ G/O Bonds and CDs	Level 2	\$ 10,882,875	\$ 4,471,756	\$ 6,411,119
<b>Total</b>		<b>\$ 10,882,875</b>	<b>\$ 4,471,756</b>	<b>\$ 6,411,119</b>

\* Certain balances have been reclassified to conform to the current year presentation.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**D. CASH, CASH EQUIVALENTS, AND INVESTMENTS (CONTINUED)**

4. Credit and Custodial Credit Risk

In order to limit exposure to credit risk, the Authority follows the investment policies set forth by the NJCMF. These policies allow investment in securities that achieve a certain rating from the three major ratings organizations as determined annually by the governing board of the NJCMF, as well as limiting investments to certain types of marketable securities.

U.S. Treasury notes are explicitly guaranteed by the U.S. government and are not subject to credit risk or custodial credit risk.

The Authority entered into an agreement with TD Bank to collateralize all deposits held at a market rate equal to 102% of the daily combined total of all deposits. As of June 30, 2019, all deposits were collateralized.

5. Investment Income

The following comprises investment income for the years ended June 30, 2019 and 2018, respectively:

	<u>2019</u>	<u>2018</u>
Interest earned on bank accounts and certificates of deposit	\$ 903,423	\$ 325,846
Interest earned on securities	476,330	547,088
Decrease in fair value of securities	(267,813)	(383,171)
	<u>\$ 1,111,940</u>	<u>\$ 489,763</u>

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**E. BONDS, NOTES AND LOANS PAYABLE**

**Manasquan System**

1. Notes Due to State of New Jersey

The Authority has a contractual obligation to repay the following debt:

The \$63,600,000 of Manasquan Reservoir Water Supply System State Loan Notes (the "State Loan Notes") issued June 3, 1987, pursuant to the terms of the State Loan Agreement between the Authority and the State of New Jersey (the "State Loan Agreement"), from monies authorized by the 1981 bond appropriation of \$72,000,000 for construction of the Manasquan System and the \$7,416,000 of Interim Advance Notes issued September 12, 1988, from monies made available from the General Fund of the State to finance completion costs of the Manasquan System. The State Loan Notes and the Completion Loan Notes bear interest at 5.93% and 6.24%, respectively, and are collateralized by the property and revenues of the Manasquan System.

In accordance with the terms of the State Loan Agreement, the State Loan Notes are classified as either Current Debt Service Portion Notes ("Current Notes") or Deferred Debt Service Portion Notes ("Deferred Notes"). Principal of the Deferred Notes will be discharged solely by exchange for Current Notes or by the expiration of a period of forty years from the date of their issuance, which was June 3, 1987. The Deferred Notes must be exchanged for Current Notes on a pro rata basis to the extent that the Authority enters into additional long-term contracts to sell water from the Manasquan System on an annual basis. Such Current Notes are payable over a thirty-year period commencing from such date as is defined in the State Loan Agreement.

Interest on the Deferred Notes accreted as principal through July 31, 1993, and is not payable until they have been exchanged for Current Notes. The interest that accreted as principal through July 31, 1990, accrued interest; however, the interest that accreted for the period from August 1, 1990 through July 31, 1993, did not accrue interest. The accretion of interest to the principal amount for the Current Notes and the Deferred Notes is \$25,563,184 at June 30, 2019 and 2018.

On May 12, 2016, the Authority repaid the State of New Jersey \$78,651.22 for principal and all accrued interest on outstanding Current State Loan Notes and Completion Notes. At June 30, 2019 and 2018, the State Loan Notes and Completion Loan Notes are summarized as follows:

<b>State Loan Notes</b>	2019	2018
Current Notes	\$ -	\$ -
Deferred Notes	30,365,115	30,365,115
<b>Completion Loan Notes</b>		
Current Notes	\$ -	\$ -
Deferred Notes	3,201,777	3,201,777
	<u>\$ 33,566,892</u>	<u>\$ 33,566,892</u>

**NEW JERSEY WATER SUPPLY AUTHORITY  
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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**E. BONDS, NOTES AND LOANS PAYABLE (CONTINUED)**

**Manasquan System (Continued)**

2. Manasquan Reservoir Water Supply System Revenue Bonds, Series 2005

On August 5, 2005, the Authority issued \$47,535,000 in Manasquan Reservoir Water Supply System Revenue Bonds, Series 2005. The proceeds, together with other monies on deposit, were used to prepay \$49,293,438 in Current Manasquan State Loan Notes and Completion Loan Notes, the proceeds of which were used to construct the Manasquan Water Supply System. The Revenue Bonds, Series 2005, carried a bond yield of 3.95%, and were scheduled to mature in incremental annual principal amounts through 2031.

The property, and 100% of the revenue generated by the Debt Service Component of the Rate for both initial system customers and delayed water purchase customers of the Manasquan System, was pledged as collateral for the 2005 Bonds. The Debt Service Component of the Rate represents 120% of the principal and interest requirements. For the years ended June 30, 2019 and 2018, the debt service component of the rate generated \$4,201,848 and \$4,201,848, respectively.

The Revenue Bonds, Series 2005, had a principal balance of \$26,105,000 at June 30, 2015. Those bonds maturing on or after August 1, 2016, were subject to redemption prior to their stated maturity dates at the option of the Authority. The last principal payment of \$2,940,000 was made on August 1, 2015. The remaining 2005 Bonds were redeemed on June 15, 2016, for \$23,596,126 including accrued interest.

3. Manasquan Reservoir Water Supply System Refunding Bonds, Series 2016

On April 26, 2016, the Authority issued \$17,460,000 in Manasquan Reservoir Water Supply System Refunding Bonds, Series 2016. The proceeds, together with other monies on deposit in the amount of \$6,340,964, were used to prepay \$23,242,358 in Manasquan Reservoir Water Supply System Revenue Bonds, Series 2005 and Current Manasquan State Loan Notes and Completion Loan Notes.

The Refunding Bonds, Series 2016, have a principal balance of \$11,545,000 at June 30, 2019, carry a bond yield of 1.59%, and mature in incremental annual principal amounts through 2031. Principal maturities for the year ending June 30, 2020, are \$3,015,000.

The property, and 100% of the revenue generated by the Debt Service Component of the Rate for both initial system customers and delayed water purchase customers of the Manasquan System, was pledged as collateral for the 2016 Bonds. The Debt Service Component of the Rate represents 120% of the principal and interest requirements. The pledged revenue will be unavailable for other purposes until August 1, 2031.



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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**E. BONDS, NOTES AND LOANS PAYABLE (CONTINUED)**

**Manasquan System (Continued)**

3. Manasquan Reservoir Water Supply System Refunding Bonds, Series 2016 (Continued)

For the years ended June 30, 2019 and 2018, interest expense on the 2016 Bonds amounted to \$516,521 and \$626,497, respectively, and the related interest income earned on the restricted investments account amounted to \$0 and \$0, respectively.

The current refunding resulted in a difference between the par amount of the refunding bonds and the par amount of the refunded bonds of \$5,782,358. The net premium received on the refunding bonds was \$1,821,414, is reported with bonds payable on the statements of net position and is being charged to operations using a method that approximates the effective interest method over the shorter of the remaining life of the old debt or the life of the new debt. Although the refunding resulted in an accounting gain of \$823,712, it was performed to reduce debt service by approximately \$5,269,268 and resulted in an economic gain (difference between the present values of the old and new debt service payments) of \$2,999,861. The accounting gain, or deferred gain on the refunding, is reported as a deferred inflow of resources.

4. New Jersey Environmental Infrastructure Financing Program (“NJEIFP”)

The New Jersey Water Supply Authority, a Component Unit of the State of New Jersey, obtained a loan from the New Jersey Environmental Infrastructure Trust (“the Trust”) for the construction of a permanent structure over the Manasquan Intake Pump Station. Under the NJEIFP, the borrowers benefit from a loan formula under which participants borrow a percentage of cost from the State Revolving Fund maintained by the NJDEP at zero interest and the remaining percentage from the Trust at the same interest rate the Trust pays on its bonds. Under the State’s Smart Growth Initiative, the interest rate is equivalent to 25 percent of the lowest available rate. Each NJEIFP loan carries a 20-year life. Property and revenue of the Manasquan Reservoir System are pledged as collateral for the loans.

The following table summarizes the NJEIFP loan outstanding for the Manasquan Reservoir System, as of June 30, 2019:

NJEIFP Series	Date of Issuance	State Revolving Fund Original Principal	Percent	Trust Original Principal	Percent	Blended Interest Rate	Outstanding Principal	Maturity
2012B	5/3/2012	\$2,312,250	76%	\$715,000	24%	0.80%	\$1,991,897	8/1/2031

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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**E. BONDS, NOTES AND LOANS PAYABLE (CONTINUED)**

**Raritan System**

5. New Jersey Environmental Infrastructure Financing Program (“NJEIFP”)

The New Jersey Water Supply Authority, a Component Unit of the State of New Jersey, obtained loans from the New Jersey Environmental Infrastructure Trust (the “Trust”) for the acquisition of source water watershed properties critical to the Raritan Basin System. Under the NJEIFP, the borrowers benefit from a loan formula under which participants borrow a percentage of the cost from the State Revolving Fund maintained by the NJDEP at zero interest and the remaining percentage from the Trust at the same interest rate the Trust pays on its bonds. Under the State’s Smart Growth Initiative, the interest rate is equivalent to 25 percent of the lowest available rate. Each NJEIFP loan carries a 20-year life, and property and revenue of the Raritan Basin System are pledged as collateral for the loans.

In fiscal year 2018, the Authority borrowed \$49,548,569 from the New Jersey Infrastructure Bank (NJIB - formerly known as the New Jersey Environmental Infrastructure Trust) through an interim note to finance its Raritan Basin System Canal Dredging project. Upon substantial completion of the project, it is anticipated that the interim loan will convert to permanent long-term financing. Terms of the long-term financing are expected to be similar to those terms of existing loans with the NJEIFP.

In fiscal year 2019, the Authority borrowed \$15,224,595 from the NJIB through an interim note to finance its Raritan Basin System Round Valley Refurbishment and Resource Preservation Project. Upon substantial completion of the project, it is anticipated that the interim loan will convert to permanent long-term financing. Terms of the long-term financing are expected to be similar to those terms of existing loans with the NJEIFP.

The following table summarizes the NJEIFP/NJIB loans outstanding for the Raritan Basin System, as of June 30, 2019:

NJEIFP Series	Date of Issuance	State Revolving Fund Original Principal	Percent	Trust Original Principal	Percent	Blended Interest Rate	Outstanding Principal	Maturity
2003A	11/6/2003	\$627,019	75%	\$235,000	25%	1.19%	\$234,612	8/1/2023
2004A	11/4/2004	1,030,000	75%	350,000	25%	1.31%	\$455,028	8/1/2024
2005A	11/10/2005	2,940,974	75%	1,050,000	25%	1.25%	\$1,044,405	8/1/2025
2006A	11/9/2006	2,099,363	75%	745,000	25%	1.26%	\$1,188,391	8/1/2026
2007A	11/8/2007	1,740,563	75%	620,000	25%	1.06%	\$1,153,723	8/1/2027
2008A	11/6/2008	1,152,000	64%	660,000	36%	1.74%	\$1,015,545	8/1/2028
2010A	3/10/2010	300,493	51%	290,000	49%	1.69%	\$336,406	8/1/2029
2010B	12/2/2010	1,064,338	52%	990,000	48%	1.87%	\$1,355,429	8/1/2030
2012A	5/3/2012	1,501,455	76%	465,000	24%	0.65%	\$1,327,039	8/1/2031
CFP-18-1	2/15/2018	-	0%	49,548,569	100%	tbd	\$49,548,569	tbd
CFP-19-1	6/28/2019	-	0%	15,224,595	100%	tbd	\$15,224,595	tbd
Total		\$12,456,205		\$70,178,164			\$72,883,742	

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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**E. BONDS, NOTES AND LOANS PAYABLE (CONTINUED)**

The following table summarizes the changes in bonds, notes and loans payable between fiscal years 2019, 2018 and 2017:

	<b>Fiscal Year 2018</b>	<b>Less Payments, Net of Amortization</b>	<b>Debt Issued</b>	<b>Fiscal Year 2019</b>	<b>Due Within One Year</b>
Bonds payable	\$ 15,748,257	\$ 3,129,078	\$ -	\$ 12,619,179	\$ 3,015,000
Notes payable	\$ 33,566,892	-	-	33,566,892	-
Loans payable	60,811,617	1,059,532	15,224,595	74,976,680	1,060,585
<b>Total</b>	<b>\$ 110,126,766</b>	<b>\$ 4,188,610</b>	<b>\$ 15,224,595</b>	<b>\$ 121,162,751</b>	<b>\$ 4,075,585</b>

	<b>Fiscal Year 2017</b>	<b>Less Payments, Net of Amortization</b>	<b>Debt Issued</b>	<b>Fiscal Year 2018</b>	<b>Due Within One Year</b>
Bonds payable	\$ 18,802,335	\$ 3,054,078	\$ -	\$ 15,748,257	\$ 2,880,000
Notes payable	33,566,892	-	-	33,566,892	-
Loans payable	12,318,018	1,054,970	49,548,569	60,811,617	1,051,252
<b>Total</b>	<b>\$ 64,687,245</b>	<b>\$ 4,109,048</b>	<b>\$ 49,548,569</b>	<b>\$ 110,126,766</b>	<b>\$ 3,931,252</b>

**NEW JERSEY WATER SUPPLY AUTHORITY  
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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**E. BONDS, NOTES AND LOANS PAYABLE (CONTINUED)**

Principal and interest on aggregate maturities and bonds, notes and loans, net of unamortized bond premium, are as follows:

Year Ending June 30,	Raritan Basin System	Manasquan Reservoir System	Notes Payable Manasquan System	Manasquan System Revenue Bonds Series 2016	Totals
2020	\$ 1,052,571	\$ 172,822	\$ -	\$ 3,445,962	\$ 4,671,355
2021	1,069,652	176,197	-	3,446,338	4,692,187
2022	1,043,168	174,447	-	582,213	1,799,828
2023	1,030,125	172,697	-	581,963	1,784,785
2024	907,973	175,822	-	580,713	1,664,508
2025-2029	3,188,158	868,535	-	2,880,008	6,936,701
2030-2034	575,075	431,427	-	1,707,434	2,713,936
2035-2039	-	-	-	-	-
TBD	64,773,164				64,773,164
Deferred Portion	-	-	33,566,892	-	33,566,892
Subtotal	73,639,886	2,171,947	33,566,892	13,224,631	122,603,356
Less amounts representing interest	756,146	180,050	-	1,679,631	2,615,827
Plus unamortized bond premium	65,248	35,795	-	1,074,179	1,175,222
Subtotal	72,948,988	2,027,692	33,566,892	12,619,179	121,162,751
Less:					
Current principal portion	913,013	147,572	-	3,015,000	4,075,585
Total	\$ 72,035,975	\$ 1,880,120	\$ 33,566,892	\$ 9,604,179	\$ 117,087,166

**NEW JERSEY WATER SUPPLY AUTHORITY  
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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**F. EMPLOYEE BENEFITS**

**Pension and Retirement Plans**

Full-time employees of the Authority are covered by the Public Employees' Retirement System of the State of New Jersey ("PERS"). PERS is administered by the State of New Jersey, Division of Pensions and Benefits ("Division"). The Authority has adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* and Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*. Statements No. 68 and 71 require the Authority to report its share of the defined benefit pension liability and expense, as well as the related deferred outflows of resources and deferred inflows of resources, allocated to it by the PERS. For additional information about PERS, please refer to the Division's Comprehensive Annual Financial Report (CAFR) which can be found at <https://www.nj.gov/treasury/pensions/documents/financial/gasb/gasb68-pers19.pdf>.

Following is the total of the local portion of the PERS' pension liabilities, pension assets, deferred outflows of resources and deferred inflows of resources related to pensions, and the pension expense and expenditures for the fiscal year ended June 30, 2019.

Net Pension Liabilities	\$19,884,740
Deferred Outflow of Resources	5,501,791
Deferred Inflow of Resources	7,141,533
Pension Expense	1,137,817
Contributions Made	1,004,540

*Plan Description and Benefits*

PERS is a cost-sharing, multiple-employer defined benefit pension plan. PERS provides retirement and disability benefits, annual cost of living adjustments, and benefits to plan members and their beneficiaries. As a condition of employment, all full-time Authority employees are required to be members of PERS. PERS members can apply for a service retirement at age 60 if enrolled before November 2, 2008 (Tier 1 or Tier 2), or at age 62 if enrolled on or after November 2, 2008, but before June 28, 2011 (Tier 3 or Tier 4), or at age 65 if enrolled on or after June 28, 2011 (Tier 5), regardless of the amount of service credit earned.

Tier 1, 2 or 3: Annual Benefit = Years of Service Credit, divided by 55, times Final Average Salary (average salary of the last three years of credited service or the highest three fiscal years of credited service, whichever provides the higher benefit). Tier 4 or Tier 5: Annual Benefit = Years of Service Credit, divided by 60, times Final Average Salary (average salary of the last five years of credited service or the highest five fiscal years of credited service, whichever provides the higher benefit). Pension benefits fully vest on reaching 10 years of service. Vested employees who were enrolled prior to July 1, 2007, and who have established 25 years or more of creditable service may retire without penalty at or after age 55 and receive full retirement benefits. PERS also provides death and disability benefits. Benefits are established by State statute.

**NEW JERSEY WATER SUPPLY AUTHORITY  
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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**F. EMPLOYEE BENEFITS (CONTINUED)**

*Contributions*

Employee contribution rates to PERS governed by P.L. 2011, C. 78, effective June 28, 2011, were increased from 5.5% of salary to 6.5% of salary, and a phase-in to 7.5% of salary over a seven-year period. Covered Authority employees are required by PERS to contribute 7.5% of their salaries. State statute requires the Authority to contribute an actuarially determined rate which includes the normal cost and the unfunded accrued liability. The amount of the Authority's contribution is certified each year by PERS on the recommendation of the actuary, who makes an annual actuarial valuation. The valuation is based on a determination of the financial condition of the retirement system. It includes the computation of the present dollar value of benefits payable to former and present members and the present dollar value of future employer and employee contributions, giving effect to mortality among active and retired members and also to the rates of disability, retirement, withdrawal, former service, salary and interest. In accordance with State statute, the long-term expected rate of return on plan investments is determined by the State Treasurer, after consultation with the Directors of the Division of Investments and Division of Pensions and Benefits, the board of trustees, and the actuaries. Specific information on actuarial assumptions and rates of return can be found at <https://www.nj.gov/treasury/pensions/documents/financial/gasb/gasb68-pers19-val.pdf>.

The payroll for employees covered by PERS for the years ended June 30, 2019, 2018 and 2017 was \$7,636,273, \$7,351,319, and \$7,002,687 respectively. The Authority's total payroll for the years ended June 30, 2019, 2018, and 2017 was \$8,014,260, \$7,882,193, and \$7,425,938, respectively. The actuarial contribution requirements and the contributions made for the years ended June 30, 2019, 2018 and 2017 were \$1,581,911, \$1,459,787, and \$1,400,670 respectively, which consisted of \$1,004,540, \$916,857, and \$896,476 from the Authority, and \$577,371, \$542,930, and \$504,194 from employees, respectively. As required by PERS, the employer and employee contributions represented 13.15% and 7.56% of covered payroll for the year ended June 30, 2019, 12.47% and 7.39% of covered payroll for the year ended June 30, 2018, 12.80% and 7.20% of covered payroll for the year ended June 30, 2017, and 11.85% and 7.06% of covered payroll for the year ended June 30, 2016, respectively. Contributions were made in accordance with the actuarial funding requirement.

*Assumptions*

The total pension liability for the June 30, 2018, measurement date was determined by an actuarial valuation as of July 1, 2017. The pension liability was rolled forward to June 30, 2018. The actuarial valuation used an inflation rate of 2.25%, projected salary increases through 2026 of 1.65% to 4.15% based on age and thereafter 2.65% to 5.15% based on age and an investment rate of return of 7.00%.

The discount rate used to measure the total pension liability was 5.66% and 5.00% as of June 30, 2018 and 2017, respectively. The single blended discount rate was based on the long-term expected rate of return on pension plan investments of 7.00% and 7.00%, and a municipal bond rate of 3.87% and 3.58% as of June 30, 2018 and 2017, respectively, based on the Bond Buyer Go 20-Bond Municipal Bond Index which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the

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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**F. EMPLOYEE BENEFITS (CONTINUED)**

*Assumptions (Continued)*

current member contribution rates and that contributions from employers will be made based on the contribution rate in the most recent fiscal year. The State employer contributed 50% and 40% of the actuarially determined contributions and the local employers contributed 100% of their actuarially determined contributions as of June 30, 2018 and 2017, respectively. Based on those assumptions, the plan's fiduciary net position was projected to be available to make future benefit payments of current plan members through June 30, 2046. Therefore, the long-term expected rate of return on plan investments was applied to projected benefit payments through June 30, 2046, and the municipal bond rate was applied to projected benefit payments after that date in determining the total pension liability. More information on mortality rates and other assumptions and investment policies, can be found at <https://www.nj.gov/treasury/pensions/documents/financial/gasb/gasb68-pers19-val.pdf>.

The following presents the Authority's proportionate share of the PERS net pension liability calculated using the discount rate of 5.66% and 5.00% as of June 30, 2018 and 2017, respectively, as well as what the PERS net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the assumed rate.

**Sensitivity of the Authority's Proportionate Share of the PERS Local Share Net Pension Liability to Changes in the Discount Rate**

	At 1% decrease (4.66%)	At current discount rate (5.66%)	At 1% increase (6.66%)
2018	<u>\$25,002,770</u>	<u>\$19,884,741</u>	<u>\$15,591,041</u>
	At 1% decrease (4.00%)	At current discount rate (5.00%)	At 1% increase (6.00%)
2017	<u>\$28,581,165</u>	<u>\$23,038,776</u>	<u>\$18,421,279</u>

*Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pension*

Although the Division administers one cost-sharing multiple-employer defined benefit pension plan, separate (sub) actuarial valuations are prepared to determine the actuarial determined contribution rate by group. Following this method, the measurement of the collective net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense excluding that attributable to employer-paid member contributions are determined separately for each individual employer of the State and local groups.

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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**F. EMPLOYEE BENEFITS (CONTINUED)**

*Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pension (Continued)*

To facilitate the separate (sub) actuarial valuations, the Division maintains separate accounts to identify additions, deductions, and fiduciary net position applicable to each group. The allocation percentages presented for each group in the schedule of employer allocations are applied to amounts presented in the schedules of pension amount by employer. The allocation percentages for each group as of June 30, 2018 and 2017 are based on the ratio of each employer's contributions to total employer contributions of the group for the fiscal years ended June 30, 2018 and 2017, respectively.

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, requires participating employers in PERS to recognize their proportionate share of the collective net pension liability, collected deferred outflows of resources, collective deferred inflows of resources and collective pension expense excluding that attributable to employer-paid member contributions. The employer allocation percentages presented in the PERS schedule of employer allocations and applied to amounts presented in the PERS schedule of pension amounts by employer are based on the ratio of the contributions as an individual employer to total contributions to the PERS during the years ended June 30, 2018 and 2017. The Authority's proportionate share of the collective net pension liability as of June 30, 2018 and 2017 was .1010% and .0990%, respectively.

At June 30, 2019, the amount recognized as the Authority's proportionate share of the PERS net pension liability was \$19,884,740. At June 30, 2018, the amount recognized as the Authority's proportionate share of the PERS net pension liability was \$23,038,776. For the years ended June 30, 2019 and 2018, the Authority recognized PERS pension expense of \$1,137,817 and \$1,782,151 respectively. At June 30, 2019, deferred outflows of resources and deferred inflows of resources related to the PERS pension are as follows:

	June 30, 2019		June 30, 2018	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Net Difference Between Expected and Actual Experience	\$ 379,205	\$ 102,532	\$ 542,484	\$ -
Change of Assumptions	3,276,676	6,358,082	4,641,519	4,624,503
Net Difference Between Projected and Actual Investment Earnings	-	186,520	156,878	-
Net Change in Proportions	841,370	494,399	648,032	721,380
Total Contributions and Proportionate Share of Contributions after the Measurement Date	1,004,540	-	916,857	-
	<u>\$ 5,501,791</u>	<u>\$ 7,141,533</u>	<u>\$ 6,905,770</u>	<u>\$ 5,345,883</u>



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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**F. EMPLOYEE BENEFITS (CONTINUED)**

*Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pension (Continued)*

The Authority recognizes the \$1,004,540 and \$916,857 reported as deferred outflows of resources resulting from pension contributions after the measurement date, but before the end of the Authority's reporting period, as noted in the previous table, as a reduction of the PERS net pension liability in the subsequent fiscal year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in PERS pension expense as follows:

Year Ending June 30,	Amortization
2019	\$ 122,002
2020	(168,913)
2021	(1,211,245)
2022	(1,049,926)
2023	(336,200)
Total	<u>\$ (2,644,282)</u>

**Post-Retirement Health Care Benefits**

**Other Post-Employment Benefits ("OPEB") Other than Pensions**

On July 1, 2017, The Authority adopted GASB Statement No. 75, *Accounting and Financial Reporting for the Post-employment Benefits Other Than Pensions*. Statement No. 75 requires participating employers in the Plan to recognize their proportionate share of the collective total OPEB liability, collective deferred outflow of resources, collective deferred inflow of resources, and collective OPEB expense based on the ratio of plan members of an individual employer to the total members of the plan. For additional information about the Plan, please refer to the Division's Comprehensive Annual Financial Report which can be found at <https://www.state.nj.us/treasury/pensions/financial-reports.shtml>.

*Plan Description and Benefits*

The Authority provides post-employment healthcare benefits (including Medicare Part B reimbursement) and prescription drug coverage through participation in the New Jersey State Health Benefits Program. The plan provides medical and prescription drug coverage to retirees and their covered dependents of the employers. Under the provisions of Chapter 88, P.L. 1974 and Chapter 48, P.L. 1999, local government employers electing to provide post-retirement medical coverage to their employees must file a resolution with the Division of Pension and Benefits. Under Chapter 88, local employers elect to provide benefit coverage based on the eligibility rules and regulations promulgated by the State Health Benefits Commission. Chapter 48 allows local employers to establish their own age and service eligibility for employer paid health benefits coverage for retired employees. Under Chapter 48, the employer may assume the cost of post-retirement medical coverage for employees and their dependents who: 1) retired on a disability pension; or 2) retired with 25 or more years of service credit in a State or locally

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NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**F. EMPLOYEE BENEFITS (CONTINUED)**

**Post-Retirement Health Care Benefits (Continued)**

**Other Post-Employment Benefits (“OPEB”) Other than Pensions (Continued)**

administered retirement system and a period of service of up to 25 years with the employer at the time of retirement as established by the employer; or 3) retired and reached the age of 65 with 25 or more years of service credit in a State or locally administered retirement system and a period of service of up to 25 years with the employer at the time of retirement as established by the employer; or 4) retired and reached age 62 with at least 15 years of service with the employer. Further, the law provides that the employer paid obligations for retiree coverage may be determined by means of a collective negotiations agreement.

Pursuant to Chapter 78, P.L. 2011, future retirees eligible for post-retirement medical coverage who have less than 20 years of creditable service on June 28, 2011 will be required to pay a percentage of the cost of their health care coverage in retirement provided they retire with 25 or more years of pension service credit. The percentage of premium for which the retiree will be responsible will be determined based on the retiree’s annual retirement benefit and level of coverage.

Following is the total of the local portion of PER’s OPEB liabilities, deferred outflows of resources and deferred inflows of resources related to OPEB, and the OPEB expense and expenditures for the fiscal year ended June 30, 2019.

Total OPEB Liabilities	\$26,850,331
Deferred Outflow of Resources	824,121
Deferred Inflow of Resources	13,629,222
OPEB Expense	871,686

*Retirees and Employees Covered by the OPEB Plan*

At June 30, 2019, the following employees were covered by the benefit terms: 174

Retired employees and/or beneficiaries currently receiving benefit payments: 169

*Total OPEB Liability*

The Authority’s total OPEB liability of \$26,850,331 was measured as of June 30, 2018, and was based on an actuarial valuation as of June 30, 2017. The results of the June 30, 2017, valuation were rolled forward to June 30, 2018. The Authority has fully recognized this liability in the statement of net position as of June 30, 2019, in accordance with GASB 75.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**F. EMPLOYEE BENEFITS (CONTINUED)**

**Post-Retirement Health Care Benefits (Continued)**

**Other Post-Employment Benefits (“OPEB”) Other than Pensions (Continued)**

*Actuarial Methods and Assumptions*

The total OPEB liability in the June 30, 2018 actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement:

Inflation rate	2.50%
Salary increases*:	
Through 2026	1.65% to 8.98%
Thereafter	2.65% to 9.98%

\*Salary increases are based on the defined benefit plan that the member is enrolled in and his or her age.

Pre-retirement mortality rates were based on the RP-2006 Headcount-Weighted Healthy Employee Male/Female mortality tables with fully generational mortality improvement projections from the central year using the MP-2017 scale. Post-retirement mortality rates were based on the RP-2006 Headcount-Weighted Healthy Annuitant Male/Female mortality table with fully generational improvement projections from the central year using the MP-2017 scale. Disability mortality was based on the RP-2006 Headcount-Weighted Disabled Male/Female mortality table with fully generational improvement projections from the central year using the MP-2017 scale.

Certain actuarial assumptions used in the June 30, 2017, valuation were based on the results of the pension plans’ experience studies for which the members are eligible for coverage under this Plan – the Police and Firemen Retirement System (PFRS) and the Public Employees’ Retirement System (PERS). The PFRS and PERS experience studies were prepared for the periods July 1, 2010 to June 30, 2013 and July 1, 2011 to June 30, 2014, respectively.

One-hundred percent of active members are considered to participate in the Plan upon retirement.

*Health Care Trend Assumptions*

For pre-Medicare preferred provider organization (PPO) and health maintenance organization (HMO) medical benefits, the trend rate is initially 5.8% and decreases to a 5.0% long-term trend rate after eight years. For self-insured post-65 PPO and HMO medical benefits, the trend rate is 4.5%. For prescription drug benefits, the initial trend rate is 8.0% decreasing to a 5.0% long-term trend rate after seven years. For the Medicare Advantage trend rate is 4.5% and will continue in all future years.

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**F. EMPLOYEE BENEFITS (CONTINUED)**

**Post-Retirement Health Care Benefits (Continued)**

**Other Post-Employment Benefits (“OPEB”) Other than Pensions (Continued)**

*Discount Rate*

The discount rates for June 30, 2018 and 2017 were 3.87% and 3.58%, respectively. This represents the municipal bond return rate as chosen by the State. The source is the Bond Buyer Go 20-Bond Municipal Bond Index, which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. As the long-term rate of return is less than the municipal bond rate, it is not considered in the calculation of the discount rate, rather the discount rate is set at the municipal bond rate.

*Sensitivity of Total OPEB Liability to Changes in the Discount Rate*

The following presents the Authority’s total OPEB liability as of June 30, 2018 and 2017, calculated using the discount rate as disclosed above as well as what the Authority’s total OPEB liability would be if it was calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

	At 1% decrease (2.87%)	At current discount rate (3.87%)	At 1% increase (4.87%)
2018	<u>\$31,502,537</u>	<u>\$26,850,331</u>	<u>\$23,134,271</u>
	At 1% decrease (2.58%)	At current discount rate (3.58%)	At 1% increase (4.58%)
2017	<u>\$39,478,443</u>	<u>\$33,469,644</u>	<u>\$28,701,763</u>

*Sensitivity of Total OPEB Liability to Changes in the Healthcare Trend Rate*

The following presents the total OPEB liability as of June 30, 2018 and 2017, respectively, calculated using the healthcare trend rate as disclosed above as well as what the total OPEB liability would be if it was calculated using a healthcare trend rate that is one percentage point lower or one percentage point higher than the current rate:

	At 1% decrease	Healthcare cost trend rate	At 1% increase
2018	<u>\$22,397,481</u>	<u>\$26,850,331</u>	<u>\$32,612,980</u>
	At 1% decrease	Healthcare cost trend rate	At 1% increase
2017	<u>\$27,814,252</u>	<u>\$33,469,644</u>	<u>\$40,833,620</u>

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**F. EMPLOYEE BENEFITS (CONTINUED)**

**Post-Retirement Health Care Benefits (Continued)**

**Other Post-Employment Benefits (“OPEB”) Other than Pensions (Continued)**

GASB Statement No. 75, *Reporting for the Postemployment Benefits Other Than Pensions*, requires participating employers recognize their proportionate share of the collective total OPEB liability, collected deferred outflows of resources, collective deferred inflows of resources, and collective OPEB expense. The Authority’s proportionate share of the collective total OPEB liability as of June 30, 2018 and 2017 was .1680 % and .1639%, respectively.

At June 30, 2019, the amount recognized as the Authority’s proportionate share of the total OPEB liability was \$26,850,331. For the year ended June 30, 2019, the Authority recognized OPEB expense of \$1,349,503. At June 30, 2019, deferred outflows of resources and deferred inflows of resources related to OPEB are as follows:

	June 30, 2019		June 30, 2018	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Net Difference Between Expected and Actual Experience	\$ -	\$ 5,344,296	\$ -	\$ -
Change of Assumptions	-	6,676,909	-	3,714,846
Net Difference Between Projected and Actual Investment Earnings	13,910	-	5,736	-
Net Change in Proportions	810,211	1,608,017	-	1,874,245
	<u>\$ 824,121</u>	<u>\$ 13,629,222</u>	<u>\$ 5,736</u>	<u>\$ 5,589,091</u>

Deferred inflows and outflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ending June 30,	Amortization
2019	\$ (1,880,259)
2020	(1,880,259)
2021	(1,880,259)
2022	(1,881,826)
2023	(1,884,359)
Thereafter	(3,398,139)
Total	<u>\$ (12,805,101)</u>

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

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**G. MAJOR WATER CUSTOMERS**

During fiscal years 2019 and 2018, the Authority supplied water to approximately 32 customers of the Raritan Basin System and 13 customers of the Manasquan System.

During fiscal years 2019 and 2018, two customers accounted for approximately 84% of total Raritan Basin System operating revenue. During fiscal years 2019 and 2018, three customers accounted for approximately 85% of total Manasquan System operating revenue.

**H. RISK MANAGEMENT**

The Authority carries insurance for all of its facilities, covering direct physical loss or damage and loss of revenue resulting therefrom, with such deductibles as it deems appropriate. The Authority also carries General and Umbrella Public Liability Insurance with such self-insured retainers as it deems appropriate. Automotive and Public Officials Liability coverage is also maintained with deductibles. Workers' Compensation coverage is also maintained, as required by State law. Settled claims resulting from the aforementioned risks have not exceeded insurance coverage in any of the past three fiscal years.

**I. INSURANCE REIMBURSEMENTS**

There are no insurance or Federal Emergency Management Agency reimbursements included in "Other income" on the statement of revenue, expenses and changes in net position for the years ended June 30, 2019 and 2018.

**J. CONTINGENCIES**

The Authority is party to various legal actions and disputes. Although the ultimate effect, if any, of these matters is not presently determinable, management believes that collectively they will not have a material effect on the results of operations or the financial position of the Authority.

**K. INFORMATION BY BUSINESS SEGMENT**

The Authority issued revenue bonds to finance the construction of various capital assets, including the construction of the reservoir systems for both the Manasquan and Raritan Basin Systems. Each of these Systems must provide sufficient revenue each year to cover its own operating expenses and debt service. Investors in the revenue bonds rely solely on the revenue generated by the individual activities for repayment. The chart represents information by Business Segment and is not consistent with the consolidated balances on the statement of net position. Summary financial information for the operating segments is presented below:

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**K. INFORMATION BY BUSINESS SEGMENT (CONTINUED)**

	June 30, 2019		June 30, 2018*	
	Raritan Basin System	Manasquan Reservoir System	Raritan Basin System	Manasquan Reservoir System
<b>Condensed statement of net position</b>				
<b>Assets and deferred outflows of resources:</b>				
Current assets	\$ 87,222,463	\$ 16,636,908	\$ 84,732,962	\$ 15,560,928
Restricted cash	15,026,031	8,117,224	7,708,070	2,523,253
Other restricted assets	-	-	-	5,378,034
Capital assets	101,824,971	52,172,906	90,438,403	53,998,878
Other non-current assets	8,606,428	841,855	9,875,183	839,914
Deferred outflows of resources	5,472,257	1,494,974	5,780,190	1,621,896
Total assets and deferred outflows of resources	\$ 218,152,150	\$ 79,263,867	\$ 198,534,808	\$ 79,922,903
<b>Liabilities and deferred inflows of resources:</b>				
Current liabilities	\$ 7,844,488	\$ 6,776,482	\$ 10,008,576	\$ 6,355,839
Non-current liabilities	107,877,358	55,944,879	100,799,272	61,904,662
Deferred inflows of resources	27,542,817	(6,356,182)	20,781,907	(9,815,802)
Total liabilities and deferred inflows of resources	143,264,663	56,365,179	131,589,755	58,444,699
<b>Net Position:</b>				
Net investment in capital assets	28,875,982	29,036,544	31,804,837	27,470,435
Restricted for debt service	14,551,031	5,507,948	7,708,070	5,726,391
Unrestricted	31,460,474	(11,645,804)	27,432,146	(11,718,622)
Total net position	74,887,487	22,898,688	66,945,053	21,478,204
<b>Total liabilities, deferred inflows of resources, and net position</b>	\$ 218,152,150	\$ 79,263,867	\$ 198,534,808	\$ 79,922,903

\* Certain balances have been reclassified to conform to current year presentation

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

**K. INFORMATION BY BUSINESS SEGMENT (CONTINUED)**

	Year Ended June 30, 2019		Year Ended June 30, 2018	
	Raritan Basin System	Manasquan Reservoir System	Raritan Basin System	Manasquan Reservoir System
<b>Condensed statement of revenue, expenses and changes in net assets</b>				
Total operating revenues	\$ 22,485,129	\$ 7,575,835	\$ 22,415,908	\$ 7,614,960
Operating expenses	13,359,974	3,026,023	14,742,494	3,146,165
Depreciation	2,858,266	1,874,752	2,773,622	1,863,787
Operating income	6,266,889	2,675,060	4,899,792	2,605,008
Non-operating revenues	982,327	262,689	475,808	71,495
Non-operating expenses (recovery)	(693,218)	1,517,265	(680,485)	1,553,440
Changes in net position	7,942,434	1,420,484	6,056,085	1,123,063
Net position, beginning of year	66,945,053	21,478,204	60,888,968	20,355,141
Net position, end of year	<u>\$ 74,887,487</u>	<u>\$ 22,898,688</u>	<u>\$ 66,945,053</u>	<u>\$ 21,478,204</u>
<b>Condensed statement of cash flows</b>				
Net cash provided by:				
Operating activities	\$ 8,486,619	\$ 4,709,412	\$ 9,859,024	\$ 5,203,841
Non-capital financing activities	27,377	-	31,422	-
Capital and related financing activities	(5,737,282)	(3,660,626)	(2,119,061)	(3,905,840)
Investing activities	2,087,891	298,422	734,538	146,983
Net increase in cash and cash equivalents	4,864,605	1,347,208	8,505,923	1,444,984
Beginning cash and cash equivalent balances	42,414,955	21,372,030	33,909,032	19,927,046
Ending cash and cash equivalent balances	<u>\$ 47,279,560</u>	<u>\$ 22,719,238</u>	<u>\$ 42,414,955</u>	<u>\$ 21,372,030</u>



**REQUIRED SUPPLEMENTARY SCHEDULES**

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF PROPORTIONATE SHARE OF PERS NET PENSION LIABILITY (NPL)  
DETERMINED AS OF JUNE 30, 2018, PERS MEASUREMENT DATE**

<b>Fiscal Year</b>	<b>Authority's Proportion</b>	<b>Authority's Proportion Share</b>	<b>Authority's Covered Payroll</b>	<b>Authority's Proportionate Share of NPL as a % of Covered Payroll</b>	<b>PERS Local Fiduciary Net Position as a % of Total Pension Liability</b>
2019	0.10%	\$ 19,884,740	\$ 7,351,319	270%	45.37%
2018	0.10%	\$ 23,038,776	\$ 7,002,687	329%	47.58%
2017	0.10%	\$ 29,886,847	\$ 6,949,632	430%	40.14%
2016	0.10%	\$ 21,534,789	\$ 6,808,193	316%	47.94%

**SCHEDULE OF CONTRIBUTIONS**

<b>Fiscal Year</b>	<b>Required Contribution</b>	<b>Contributions Recognized by PERS</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Contributions as a % of Covered Payroll</b>
2019	\$ 1,137,817	\$ 1,004,540	\$ 133,277	\$ 7,636,273	13.15%
2018	\$ 1,620,169	\$ 916,857	\$ 703,312	\$ 7,351,319	12.47%
2017	\$ 2,885,084	\$ 896,476	\$ 1,988,608	\$ 7,002,687	12.80%
2016	\$ 1,261,241	\$ 823,798	\$ 437,443	\$ 6,949,632	11.85%
2015	\$ 819,154	\$ 798,757	\$ 20,397	\$ 6,808,193	11.73%

**SCHEDULE OF CHANGES IN TOTAL NET PENSION LIABILITY**

<b>Fiscal Year</b>	<b>Beginning Balance Total Net Pension Liability</b>	<b>Difference between Expected and Actual Experience</b>	<b>Change of Assumptions</b>	<b>Difference between Expected and Actual Earnings</b>	<b>Change in Proportion and Actual Less Proportion Share</b>	<b>Other Changes and Reclassifications</b>	<b>Ending Balance Total Net Pension Liability</b>
2019	\$ 23,038,776	\$ 276,673	\$ (3,081,406)	\$ (186,520)	\$ 346,971	\$ (509,754)	\$ 19,884,740
2018	\$ 29,886,847	\$ 542,484	\$ 17,016	\$ 156,878	\$ (73,348)	\$ (7,491,101)	\$ 23,038,776
2017	\$ 21,534,789	\$ 555,805	\$ 6,190,858	\$ 1,139,613	\$ 304,163	\$ 161,619	\$ 29,886,847
2016	\$ 18,141,342	\$ 513,147	\$ 1,739,535	\$ 735,251	\$ (206,140)	\$ 611,654	\$ 21,534,789
2015	\$ 19,250,440	\$ -	\$ 570,440	\$ (1,081,086)	\$ (772,427)	\$ 173,975	\$ 18,141,342

*The pension schedules are intended to show information for ten years. The State of New Jersey has issued five years of pension information to the Authority. Additional years' information will be displayed as it becomes available.*

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF PROPORTIONATE SHARE OF THE TOTAL OPEB LIABILITY  
STATE HEALTH BENEFIT LOCAL GOVERNMENT RETIRED EMPLOYEES PLAN  
DETERMINED AS OF JUNE 30, 2018, OPEB MEASUREMENT DATE**

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	<u>2019</u>	<u>2018</u>	<u>2017</u>
Authority's proportion of the total OPEB liability	0.1680130%	0.1639400%	0.1737960%
Authority's proportionate share of the total OPEB liability (asset)	\$26,850,331	33,469,644	37,744,085
Authority's covered payroll	\$ 7,636,273	\$ 7,351,319	\$ 7,002,687
Authority's proportionate share of the net OPEB liability (asset) as a percentage of its covered-employee payroll	351.6%	455.3%	539.0%
Plan fiduciary net position as a percentage of the total OPEB liability	364.2%	264.2%	215.2%

*The OPEB schedules are intended to show information for ten years. The State of New Jersey has issued three years of OPEB information to the Authority. Additional years' information will be displayed as it becomes available.*

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**OTHER SUPPLEMENTARY INFORMATION**

**NEW JERSEY WATER SUPPLY AUTHORITY**  
**A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**COMBINING SCHEDULE OF NET POSITION**  
**JUNE 30, 2019**

	<b>Raritan Basin System</b>	<b>Manasquan Reservoir System</b>	<b>Elimination Entries</b>	<b>Combined Total</b>
<b>Assets</b>				
Current assets:				
Unrestricted assets:				
Cash and cash equivalents	\$ 32,253,529	\$ 14,602,014	\$ -	\$ 46,855,543
Unbilled sales	1,493,831	-	-	1,493,831
Accounts receivable, less allowance for doubtful accounts of \$1,000 at June 30, 2019	52,472,192	1,801,514	(177,225)	54,096,481
Interest receivable	159,745	474	-	160,219
Prepaid expenses and other current assets	843,166	232,906	-	1,076,072
Total unrestricted assets	<u>87,222,463</u>	<u>16,636,908</u>	<u>(177,225)</u>	<u>103,682,146</u>
Restricted assets:				
Cash equivalents	15,026,031	8,117,224	-	23,143,255
Total current assets	<u>102,248,494</u>	<u>24,754,132</u>	<u>(177,225)</u>	<u>126,825,401</u>
Non-current assets:				
Investments	8,606,428	841,855	-	9,448,283
Capital assets net of accumulated depreciation of \$150,147,581 at June 30, 2019	101,824,971	52,172,906	-	153,997,877
Total non-current assets	<u>110,431,399</u>	<u>53,014,761</u>	<u>-</u>	<u>163,446,160</u>
Total assets	<u>212,679,893</u>	<u>77,768,893</u>	<u>(177,225)</u>	<u>290,271,561</u>
Deferred outflows of resources				
Pension related	4,196,365	1,305,426	-	5,501,791
OPEB related	634,573	189,548	-	824,121
2019 construction loan DEP fee	641,319	-	-	641,319
Total deferred outflows of resources	<u>5,472,257</u>	<u>1,494,974</u>	<u>-</u>	<u>6,967,231</u>
Total assets and deferred outflows of resources	<u>\$ 218,152,150</u>	<u>\$ 79,263,867</u>	<u>\$ (177,225)</u>	<u>\$ 297,238,792</u>
<b>Liabilities</b>				
Current liabilities:				
Current portion of bonds, notes and loans payable	\$ 913,013	\$ 3,162,572	\$ -	\$ 4,075,585
Accounts payable	4,592,208	328,236	(177,225)	4,743,219
Accrued liabilities	1,864,267	676,398	-	2,540,665
Unearned revenue	475,000	2,609,276	-	3,084,276
Total current liabilities	<u>7,844,488</u>	<u>6,776,482</u>	<u>(177,225)</u>	<u>14,443,745</u>
Non-current liabilities:				
Non-current portion of bonds, notes and loans payable	72,035,976	45,051,190	-	117,087,166
Net pension liability	15,166,627	4,718,113	-	19,884,740
Total OPEB liability	20,674,755	6,175,576	-	26,850,331
Total non-current liabilities	<u>107,877,358</u>	<u>55,944,879</u>	<u>-</u>	<u>163,822,237</u>
Total liabilities	<u>115,721,846</u>	<u>62,721,361</u>	<u>(177,225)</u>	<u>178,265,982</u>
Deferred inflows of resources				
Cost recovery	11,601,277	(11,671,181)	-	(69,904)
Pension related	5,447,039	1,694,494	-	7,141,533
OPEB related	10,494,501	3,134,721	-	13,629,222
Gain on refunding	-	485,784	-	485,784
Total deferred inflow of resources	<u>27,542,817</u>	<u>(6,356,182)</u>	<u>-</u>	<u>21,186,635</u>
<b>Net position</b>				
Net investment in capital assets	28,875,982	29,036,544	-	57,912,526
Restricted for cash, investments and unearned revenue	14,551,031	5,507,948	-	20,058,979
Unrestricted	31,460,474	(11,645,804)	-	19,814,670
Total net position	<u>74,887,487</u>	<u>22,898,688</u>	<u>-</u>	<u>97,786,175</u>
<b>Total liabilities, deferred inflows of resources, and net position</b>	<u>\$ 218,152,150</u>	<u>\$ 79,263,867</u>	<u>\$ (177,225)</u>	<u>\$ 297,238,792</u>

**NEW JERSEY WATER SUPPLY AUTHORITY**  
**A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**COMBINING SCHEDULE OF REVENUE, EXPENSES AND CHANGES IN NET POSITION**  
**YEAR ENDED JUNE 30, 2019**

	<b>Raritan Basin System</b>	<b>Manasquan Reservoir System</b>	<b>Manasquan Water Treatment Plant</b>	<b>Combined Total</b>
Operating revenue:				
Water sales	\$ 22,485,129	\$ 7,575,835	\$ -	\$ 30,060,964
Reimbursement of operating expenses			2,642,400	2,642,400
Total operating revenue	<u>22,485,129</u>	<u>7,575,835</u>	<u>2,642,400</u>	<u>32,703,364</u>
Operating expenses:				
Payroll	6,163,901	942,979	907,380	8,014,260
Operations and maintenance (direct)	3,430,475	908,432	746,776	5,085,683
Operations and maintenance (general and administrative)	-	71,761	67,008	138,769
Fringe benefits	4,537,594	436,851	419,054	5,393,499
Headquarters overhead	(771,996)	666,000	105,996	-
Depreciation	2,858,266	1,874,752	-	4,733,018
Total operating expenses	<u>16,218,240</u>	<u>4,900,775</u>	<u>2,246,214</u>	<u>23,365,229</u>
Income from operations	<u>6,266,889</u>	<u>2,675,060</u>	<u>396,186</u>	<u>9,338,135</u>
Non-operating revenue:				
State of New Jersey - Grant Programs	46,130	-	-	46,130
Investment income	818,190	257,434	36,316	1,111,940
Rental income	57,179	-	-	57,179
Other income	60,828	5,255	-	66,083
Total non-operating revenue	<u>982,327</u>	<u>262,689</u>	<u>36,316</u>	<u>1,281,332</u>
Non-operating expenses:				
Interest component of debt service to the State of New Jersey	141,991	178,119	-	320,110
Recovery of deferred inflows of resources	(835,209)	1,339,146	432,502	936,439
Total non-operating expenses	<u>(693,218)</u>	<u>1,517,265</u>	<u>432,502</u>	<u>1,256,549</u>
Changes in net position	7,942,434	1,420,484	-	9,362,918
Net position, beginning of year	66,945,053	21,478,204	-	88,423,257
Net position, end of year	<u>\$ 74,887,487</u>	<u>\$ 22,898,688</u>	<u>\$ -</u>	<u>\$ 97,786,175</u>

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - RARITAN BASIN SYSTEM  
YEAR ENDED JUNE 30, 2019**

	<b>Operating Fund</b>											Subtotal
	Revenue Account	Operating Account	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Self-Insurance Reserve	Depreciation Reserve	Pumping Reserve	Capital Improvements Investments	Source Water Protection Fund	
<b>Cash and investments - July 1, 2018</b>	\$ 1,858,475	\$ (238)	\$ 3,418,450	\$ 150,121	\$ 463,144	\$ 3,543,616	\$ 935,461	\$ 4,499,752	\$ 1,390,492	\$ 6,160,721	\$ 4,108,094	\$ 26,528,088
<b>Cash receipts:</b>												
Water sales operations and maintenance	11,684,555	-	-	-	-	-	-	-	-	-	-	11,684,555
Water sales debt service	5,687,019	-	-	-	-	-	-	-	-	-	-	5,687,019
Water sales capital fund	2,055,931	-	-	-	-	-	-	-	-	-	-	2,055,931
Water sales source water protection fund	1,495,223	-	-	-	-	-	-	-	-	-	-	1,495,223
Water sales overdrafts	120,954	-	-	-	-	-	-	-	-	-	-	120,954
Rental income	114,201	-	-	-	-	-	-	-	-	-	-	114,201
Manasquan reservoir support	57,703	-	-	-	15,650	-	-	-	-	-	-	73,353
Headquarters overhead	-	-	-	-	768,496	-	-	-	-	-	-	768,496
Disposition of property	-	-	-	-	-	-	-	-	-	-	-	-
Recycling revenue	514	-	-	-	-	-	-	-	-	-	-	514
Sale of investment securities	-	-	-	-	-	-	-	-	-	-	-	-
Nonrefundable bid deposits	-	-	-	-	-	-	-	-	-	-	-	-
Insurance reimbursement	9,672	-	-	-	-	-	-	-	-	-	-	9,672
Miscellaneous expense reimbursement	135,806	1,282	34,700	-	-	-	-	-	-	-	-	171,788
<b>Transfers:</b>												
Contributions from operating fund	894,628	-	13,722,055	3,748,210	(29,616,771)	-	-	540,809	150,000	-	527,820	(10,033,249)
Contributions to operating fund	-	-	6,794,896	-	7,918,504	-	-	(253,059)	-	-	(289,928)	14,170,413
Transfers for operations	(21,887,680)	(200)	200	-	21,887,680	-	-	-	-	-	-	-
Transfers for investments	-	-	-	-	-	-	-	-	-	-	-	-
Distribution from reserves to operations	(2,161,570)	-	2,375,346	-	2,400,541	-	-	-	-	-	(121,100)	2,493,217
Investment income	3,073	-	22,328	2,427	16,508	95,872	26,268	99,114	22,822	313,238	65,135	666,785
<b>Per resolution, Section 603:</b>												
Investment income, transfer from	304,496	-	-	-	(12,170)	(70,183)	(22,249)	(50,964)	-	(312,500)	-	(163,570)
Investment income, transfer to	128,639	-	-	-	-	35,833	(902)	-	-	-	-	163,570
Unrealized gain/(loss) on fair value	-	-	-	-	-	13,586	49,102	66,314	-	(36,637)	-	92,365
<b>Total cash receipts</b>	<b>(1,356,836)</b>	<b>1,082</b>	<b>22,949,525</b>	<b>3,750,637</b>	<b>3,378,438</b>	<b>75,108</b>	<b>52,219</b>	<b>402,214</b>	<b>172,822</b>	<b>(35,899)</b>	<b>181,927</b>	<b>29,571,237</b>
<b>Total available cash and investments</b>	<b>\$ 501,639</b>	<b>\$ 844</b>	<b>\$ 26,367,975</b>	<b>\$ 3,900,758</b>	<b>\$ 3,841,582</b>	<b>\$ 3,618,724</b>	<b>\$ 987,680</b>	<b>\$ 4,901,966</b>	<b>\$ 1,563,314</b>	<b>\$ 6,124,822</b>	<b>\$ 4,290,021</b>	<b>\$ 56,099,325</b>



**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - RARITAN BASIN SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Subtotal	Parity SWP Bond Fund	Subordinated SWP Bond Fund	Major Rehabilitation	Capital Improvement Fund	D&R Mitigation Fund	D&R Canal Dredging	Capital Equipment Reserve	Rate Stabilization Fund	Employment Benefit Funds	Totals
Total cash and investments - July 1, 2018	\$ 26,528,088	\$ 308,848	\$ 572,947	\$ 1,391,222	\$ 13,446,428	\$ 20,336	\$ 7,639,332	\$ 604,656	\$ 86,391	\$ 1,691,890	\$ 52,290,138
<b>Cash receipts:</b>											
Water sales operations and maintenance	11,684,555	-	-	-	-	-	-	-	-	-	11,684,555
Water sales debt service	5,687,019	-	-	-	-	-	-	-	-	-	5,687,019
Water sales capital fund	2,055,931	-	-	-	-	-	-	-	-	-	2,055,931
Water sales source water protection fund	1,495,223	-	-	-	-	-	-	-	-	-	1,495,223
Water sales overdrafts	120,954	-	-	-	-	-	-	-	-	-	120,954
Rental income	114,201	-	-	-	-	-	-	-	-	-	114,201
Manasquan reservoir support	73,353	-	-	-	-	-	-	-	-	1,016	74,369
Headquarters overhead	768,496	-	-	-	-	-	-	-	-	(6,455)	762,041
Disposition of property	-	-	-	-	-	-	-	-	-	-	-
Recycling revenue	514	-	-	-	-	-	-	-	-	-	514
Sale of investment securities	-	-	-	-	-	-	-	-	-	-	-
Nonrefundable bid deposits	-	-	-	-	-	-	-	-	-	-	-
Insurance reimbursement	9,672	-	-	-	-	-	-	-	-	-	9,672
Miscellaneous expense reimbursement	171,788	-	-	-	11,614,705	475,000	-	-	-	-	12,261,493
<b>Transfers:</b>											
Contributions from operating fund	(10,033,249)	361,884	707,700	-	2,196,442	-	5,657,502	150,000	-	959,721	-
Contributions to operating fund	14,170,413	-	-	-	(13,400,919)	-	-	-	-	(769,494)	-
Transfers for operations	-	-	-	-	-	-	-	-	-	-	-
Transfers for investments	-	-	-	-	-	-	-	-	-	-	-
Distribution from reserves to operations	2,493,217	-	-	-	(2,476,888)	-	-	-	-	(16,329)	-
Investment income	666,785	1,963	4,380	21,763	186,660	3,778	161,943	10,273	923	28,136	1,086,604
<b>Per resolution, Section 603:</b>											
Investment income, transfer from	(163,570)	-	-	-	-	-	-	-	-	-	(163,570)
Investment income, transfer to	163,570	-	-	-	-	-	-	-	-	-	163,570
Unrealized gain/(loss) on fair value	92,365	-	-	-	-	-	-	-	-	-	92,365
<b>Total cash receipts</b>	<b>29,571,237</b>	<b>363,847</b>	<b>712,080</b>	<b>21,763</b>	<b>(1,880,000)</b>	<b>478,778</b>	<b>5,819,445</b>	<b>160,273</b>	<b>923</b>	<b>196,595</b>	<b>35,444,941</b>
<b>Total available cash and investments</b>	<b>\$ 56,099,325</b>	<b>\$ 672,695</b>	<b>\$ 1,285,027</b>	<b>\$ 1,412,985</b>	<b>\$ 11,566,428</b>	<b>\$ 499,114</b>	<b>\$ 13,458,777</b>	<b>\$ 764,929</b>	<b>\$ 87,314</b>	<b>\$ 1,888,485</b>	<b>\$ 87,735,079</b>

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - RARITAN BASIN SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Operating Fund											Subtotal
	Revenue Account	Operating Account	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Self-Insurance Reserve	Depreciation Reserve	Pumping Reserve	Capital Improvements Investments	Source Water Protection Fund	
<b>Total available cash and investments</b>	\$ 501,639	\$ 844	\$ 26,367,975	\$ 3,900,758	\$ 3,841,582	\$ 3,618,724	\$ 987,680	\$ 4,901,966	\$ 1,563,314	\$ 6,124,822	\$ 4,290,021	\$ 56,099,325
<b>Cash disbursements:</b>												
Payroll	-	-	-	3,723,616	-	-	-	-	-	-	-	3,723,616
Fringe benefits	-	-	39,049	-	1,603,900	-	-	-	-	-	-	1,642,949
Employee deferred compensation and credit union	-	-	1,136,014	-	680,824	-	-	-	-	-	-	1,816,838
Operations and maintenance	-	844	23,960,533	-	(738,333)	-	-	-	-	162,870	-	23,385,914
Prepaid insurance	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous disbursements	-	-	-	-	-	-	-	-	-	-	-	-
Watershed management fund	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital improvements:</b>												
Capital assets	-	-	-	-	-	-	-	-	-	-	-	-
New five year construction project	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of investments securities	-	-	-	-	-	42,312	53,352	101,302	-	-	-	196,966
Principal on 1981 bonds	-	-	-	-	-	-	-	-	-	-	-	-
Interest on 1981 bonds	-	-	-	-	-	-	-	-	-	-	-	-
Principal on 1998 bonds	-	-	-	-	-	-	-	-	-	-	-	-
Interest on 1998 revenue bonds	-	-	-	-	-	-	-	-	-	-	-	-
Principal on NJEIT bonds	-	-	-	-	-	-	-	-	-	-	-	-
Interest on NJEIT revenue bonds	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total cash disbursements</b>	-	844	25,135,596	3,723,616	1,546,391	42,312	53,352	101,302	-	162,870	-	30,766,283
<b>Cash and investments - June 30, 2019</b>	\$ 501,639	\$ -	\$ 1,232,379	\$ 177,142	\$ 2,295,191	\$ 3,576,412	\$ 934,328	\$ 4,800,664	\$ 1,563,314	\$ 5,961,952	\$ 4,290,021	\$ 25,333,042
<b>Summary of cash and investments:</b>												
Cash	\$ 501,639	\$ -	\$ 1,232,379	\$ 177,142	\$ -	\$ 256,583	\$ 253,212	\$ 255,290	\$ -	\$ 250,000	\$ -	\$ 2,926,245
Short-term investments	-	-	-	-	2,295,191	2,264,545	296,680	3,015,009	1,563,314	75,609	4,290,021	13,800,369
Long-term investments	-	-	-	-	-	1,055,284	384,436	1,530,365	-	5,636,343	-	8,606,428
Restricted Investments (current)	-	-	-	-	-	-	-	-	-	-	-	-
Restricted Investments (long-term)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total cash and investments</b>	\$ 501,639	\$ -	\$ 1,232,379	\$ 177,142	\$ 2,295,191	\$ 3,576,412	\$ 934,328	\$ 4,800,664	\$ 1,563,314	\$ 5,961,952	\$ 4,290,021	\$ 25,333,042

**NEW JERSEY WATER SUPPLY AUTHORITY  
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**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - RARITAN BASIN SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Subtotal	Parity SWP Bond Fund	Subordinated SWP Bond Fund	Major Rehabilitation	Capital Improvement Fund	D&R Mitigation fund	D&R Canal Dredging	Capital Equipment Reserve	Rate Stabilization Fund	Employment Benefit Funds	Totals
<b>Total available cash and investments</b>	\$ 56,099,325	\$ 672,695	\$ 1,285,027	\$ 1,412,985	\$ 11,566,428	\$ 499,114	\$ 13,458,777	\$ 764,929	\$ 87,314	\$ 1,888,485	\$ 87,735,079
<b>Cash disbursements:</b>											
Payroll	3,723,616	-	-	-	-	-	-	-	-	-	3,723,616
Fringe benefits	1,642,949	-	-	-	-	-	-	-	-	-	1,642,949
Employee deferred compensation and credit union	1,816,838	-	-	-	-	-	-	-	-	-	1,816,838
Operations and maintenance	23,385,914	-	-	-	-	-	-	-	-	39,304	23,425,218
Prepaid insurance	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous disbursements	-	-	-	-	-	-	-	-	-	-	-
Watershed management fund	-	-	-	-	-	-	-	-	-	-	-
<b>Capital improvements:</b>											
Capital assets	-	-	-	-	-	-	-	-	-	-	-
New five year construction project	-	-	-	-	-	-	-	-	-	-	-
Purchase of investments securities	196,966	-	-	-	-	-	-	-	-	-	196,966
Principal on 1981 bonds	-	-	-	-	-	-	-	-	-	-	-
Interest on 1981 bonds	-	-	-	-	-	-	-	-	-	-	-
Principal on 1998 bonds	-	-	-	-	-	-	-	-	-	-	-
Interest on 1998 revenue bonds	-	-	-	-	-	-	-	-	-	-	-
Principal on NJEIT bonds	-	330,434	573,245	-	-	-	-	-	-	-	903,679
Interest on NJEIT revenue bonds	-	27,019	112,806	-	-	-	-	-	-	-	139,825
<b>Total cash disbursements</b>	<b>30,766,283</b>	<b>357,453</b>	<b>686,051</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>39,304</b>	<b>31,849,091</b>
<b>Cash and investments - June 30, 2019</b>	<b>\$ 25,333,042</b>	<b>\$ 315,242</b>	<b>\$ 598,976</b>	<b>\$ 1,412,985</b>	<b>\$ 11,566,428</b>	<b>\$ 499,114</b>	<b>\$ 13,458,777</b>	<b>\$ 764,929</b>	<b>\$ 87,314</b>	<b>\$ 1,849,181</b>	<b>\$ 55,885,988</b>

**NEW JERSEY WATER SUPPLY AUTHORITY  
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**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - MANASQUAN WATER SUPPLY SYSTEM  
YEAR ENDED JUNE 30, 2019**

	Operating Fund											Subtotal	
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Self-Insurance Reserve	Renewal & Replacement Account	Water Reuse & Recycling	Source Water Protection	Depreciation Reserve	Pumping Reserve		Sediment Reserve
<b>Cash and investments - July 1, 2018</b>	\$ 70,560	\$ 665,129	\$ 40,033	\$ 4,723,630	\$ 1,604,983	\$ 214,645	\$ 3,885,517	\$ 30,307	\$ 1,573,796	\$ 566,483	\$ 154,646	\$ 226,297	\$ 13,756,026
<b>Cash receipts:</b>													
Water sales operations and maintenance	3,120,768	-	-	-	-	-	-	-	-	-	-	-	3,120,768
Water sales debt service	4,266,198	-	-	-	-	-	-	-	-	-	-	-	4,266,198
Source water protection fund	108,142	-	-	-	-	-	-	-	-	-	-	-	108,142
Water sales debt service NJEIT	179,733	-	-	-	-	-	-	-	-	-	-	-	179,733
Water sales overdrafts	7,987	-	-	-	-	-	-	-	-	-	-	-	7,987
NJ-American pumping costs	149,329	-	-	-	-	-	-	-	-	-	-	-	149,329
Headquarters overhead	-	-	-	-	-	-	-	-	-	-	-	-	-
Reimbursement of WTP capital expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Disposition of assets	5,177	-	-	-	-	-	-	-	-	-	-	-	5,177
Reimbursement from/(to) Raritan Basin	21,004	-	-	-	-	-	-	-	-	-	-	-	21,004
Sale of investments securities	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonrefundable bid deposits	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous reimbursement	19,413	-	-	-	-	-	-	-	-	-	-	-	19,413
<b>Transfers:</b>													
Contributions from operating fund	17,741	3,219,859	1,102,574	(8,794,433)	-	-	120,000	-	106,452	50,742	-	30,000	(4,147,065)
Contributions to operating fund	(205,810)	5,944	-	1,992,566	-	-	(15,674)	-	(106,961)	(20,612)	-	-	1,649,453
Transfers for operations	(7,790,385)	-	-	7,814,169	-	-	-	-	(23,811)	-	-	-	(27)
Distribution from reserves to operations	188,350	4,752	-	-	-	-	-	-	-	-	-	-	193,102
Investment income	2,432	6,599	735	91,551	33,800	6,945	62,635	68	24,866	14,564	2,199	3,403	249,797
<b>Per resolution, Section 603:</b>													
Investment income, transfer from	125,245	-	-	(73,810)	(33,216)	(6,669)	-	-	-	(9,440)	(2,048)	(3,403)	(3,341)
Investment income, transfer to	(112,619)	-	-	116,163	-	-	-	-	-	-	-	-	3,544
Unrealized gain/(loss) on fair value	-	-	-	-	33,526	14,347	-	-	-	21,675	11	-	69,559
<b>Total cash receipts</b>	<b>102,705</b>	<b>3,237,154</b>	<b>1,103,309</b>	<b>1,146,206</b>	<b>34,110</b>	<b>14,623</b>	<b>166,961</b>	<b>68</b>	<b>546</b>	<b>56,929</b>	<b>162</b>	<b>30,000</b>	<b>5,892,773</b>
<b>Total cash and investments</b>	<b>\$ 173,265</b>	<b>\$ 3,902,283</b>	<b>\$ 1,143,342</b>	<b>\$ 5,869,836</b>	<b>\$ 1,639,093</b>	<b>\$ 229,268</b>	<b>\$ 4,052,478</b>	<b>\$ 30,375</b>	<b>\$ 1,574,342</b>	<b>\$ 623,412</b>	<b>\$ 154,808</b>	<b>\$ 256,297</b>	<b>\$ 19,648,799</b>

**NEW JERSEY WATER SUPPLY AUTHORITY  
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**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - MANASQUAN WATER SUPPLY SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Water Treatment Plant/Transmission System											Rebate Fund	General Reserve Fund	Employment Benefit Funds	Totals
	Subtotal	Operating Account	Operating Fund	Residuals Reserve	Carbon Filter Reserve	Self-Insurance Reserve	Capital Improvement Reserve	NEIT Debt Service	2016 Debt Service Account	2016 Debt Service Reserve					
<b>Cash and investments - July 1, 2018</b>	\$ 13,756,026	\$ 284,676	\$ 1,864,659	\$ 9,519	\$ 98,700	\$ 254,012	\$ 11,687	\$ 146,296	\$ 3,240,896	\$ 1,746,553	\$ 244,289	\$ 41,197	\$ 513,434	\$ 22,211,944	
<b>Cash receipts:</b>															
Water sales operations and maintenance	3,120,768	-	-	-	-	-	-	-	-	-	-	-	-	3,120,768	
Water sales debt service	4,266,198	-	-	-	-	-	-	-	-	-	-	-	-	4,266,198	
Source water protection fund	108,142	-	-	-	-	-	-	-	-	-	-	-	-	108,142	
Water sales debt service NJEIT	179,733	-	-	-	-	-	-	-	-	-	-	-	-	179,733	
Water sales overdrafts	7,987	-	-	-	-	-	-	-	-	-	-	-	-	7,987	
NJ-American pumping costs	149,329	-	-	-	-	-	-	-	-	-	-	-	-	149,329	
Headquarters overhead	-	-	2,642,400	-	-	-	-	-	-	-	-	-	-	2,642,400	
Reimbursement of WTP capital expenses	-	-	12,970	-	-	-	252,334	-	-	-	-	-	-	265,304	
Disposition of assets	5,177	-	-	-	-	-	-	-	-	-	-	-	-	5,177	
Reimbursement from/(to) Raritan Basin	21,004	-	-	-	-	-	-	-	-	-	-	-	-	21,004	
Sale of investments securities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nonrefundable bid deposits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Miscellaneous reimbursement	19,413	1,093	-	-	-	-	-	-	-	-	-	-	-	20,506	
<b>Transfers:</b>															
Contributions from operating fund	(4,147,065)	675,000	(681,877)	-	-	-	-	176,920	3,521,337	-	-	188,350	267,335	-	
Contributions to operating fund	1,649,453	175,000	(1,700,166)	-	-	(124,287)	-	-	-	-	-	-	-	-	
Transfers for operations	(27)	27	-	-	-	-	-	-	-	-	-	-	-	-	
Distribution from reserves to operations	193,102	-	-	-	-	-	-	-	-	-	-	(188,350)	(4,752)	-	
Investment income	249,797	1,264	28,891	142	1,116	3,582	1,322	1,166	-	-	3,447	203	7,492	298,422	
<b>Per resolution, Section 603:</b>															
Investment income, transfer from	(3,341)	-	-	(104)	(811)	(2,626)	-	-	-	-	-	(203)	-	(7,085)	
Investment income, transfer to	3,544	-	3,542	-	-	-	-	-	-	-	-	-	-	7,086	
Unrealized gain/(loss) on fair value	69,559	-	-	-	-	-	-	-	-	-	-	-	-	69,559	
<b>Total cash receipts</b>	<b>5,892,773</b>	<b>852,384</b>	<b>305,760</b>	<b>38</b>	<b>305</b>	<b>956</b>	<b>129,369</b>	<b>178,086</b>	<b>3,521,337</b>	<b>-</b>	<b>3,447</b>	<b>-</b>	<b>270,075</b>	<b>\$11,154,530</b>	
<b>Total cash and investments</b>	<b>\$ 19,648,799</b>	<b>\$ 1,137,060</b>	<b>\$ 2,170,419</b>	<b>\$ 9,557</b>	<b>\$ 99,005</b>	<b>\$ 254,968</b>	<b>\$ 141,056</b>	<b>\$ 324,382</b>	<b>\$ 6,762,233</b>	<b>\$ 1,746,553</b>	<b>\$ 247,736</b>	<b>\$ 41,197</b>	<b>\$ 783,509</b>	<b>\$ 33,366,474</b>	

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - MANASQUAN WATER SUPPLY SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Operating Fund												Subtotal
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Self-Insurance Reserve	Renewal & Replacement Account	Water Reuse & Recycling	Source Water Protection	Depreciation Reserve	Pumping Reserve	Sediment Reserve	
<b>Total available cash and investments</b>	\$ 173,265	\$ 3,902,283	\$ 1,143,342	\$ 5,869,836	\$ 1,639,093	\$ 229,268	\$ 4,052,478	\$ 30,375	\$ 1,574,342	\$ 623,412	\$ 154,808	\$ 256,297	\$ 19,648,799
<b>Cash disbursements:</b>													
Payroll	-	-	1,087,682	-	-	-	-	-	-	-	-	-	1,087,682
Fringe benefits	-	2,152,439	-	(1,603,900)	-	-	-	-	-	-	-	-	548,539
Employee deferred compensation and credit union	-	-	-	281,697	-	-	-	-	-	-	-	-	281,697
Operations and maintenance	-	1,353,532	-	787,008	32,644	11,241	-	-	-	23,733	-	-	2,208,158
NJ-American pumping costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Prepaid insurance	-	-	-	-	-	-	-	-	-	-	-	-	-
Headquarters overhead	-	-	-	662,500	-	-	-	-	-	-	-	-	662,500
Capital assets reservoir	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital improvement program (reservoir)	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of investments securities	-	-	-	-	-	-	-	-	-	-	-	-	-
Principal on bonds	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on bonds	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total cash disbursements</b>	-	3,505,971	1,087,682	127,305	32,644	11,241	-	-	-	23,733	-	-	4,788,576
<b>Cash and investments - June 30, 2019</b>	\$ 173,265	\$ 396,312	\$ 55,660	\$ 5,742,531	\$ 1,606,449	\$ 218,027	\$ 4,052,478	\$ 30,375	\$ 1,574,342	\$ 599,679	\$ 154,808	\$ 256,297	\$ 14,860,223
<b>Summary of cash and investments:</b>													
Cash (Manasquan)	\$ 173,265	\$ 396,312	\$ 55,660	\$ -	\$ 584	\$ 272	\$ -	\$ -	\$ -	\$ 680	\$ 146	\$ -	\$ 626,919
Cash (Water Treatment Plant/TS)	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term investments	-	-	-	\$5,742,531	1,244,939	37,693	\$4,052,478	\$30,375	\$1,574,342	328,142	124,652	256,297	13,391,449
Long-term investments	-	-	-	-	360,926	180,062	-	-	-	270,857	30,010	-	841,855
Restricted investments (current)	-	-	-	-	-	-	-	-	-	-	-	-	-
Restricted investments (long-term)	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total cash and investments</b>	\$ 173,265	\$ 396,312	\$ 55,660	\$ 5,742,531	\$ 1,606,449	\$ 218,027	\$ 4,052,478	\$ 30,375	\$ 1,574,342	\$ 599,679	\$ 154,808	\$ 256,297	\$ 14,860,223

**NEW JERSEY WATER SUPPLY AUTHORITY  
A COMPONENT UNIT OF THE STATE OF NEW JERSEY**

**SCHEDULE OF CHANGES IN CASH AND INVESTMENTS - MANASQUAN WATER SUPPLY SYSTEM (CONTINUED)  
YEAR ENDED JUNE 30, 2019**

	Water Treatment Plant/Transmission System											Totals		
	Subtotal	Operating Account	Operating Fund	Residual Reserve	Carbon Filter Reserve	Self-Insurance Reserve	Capital Improvement Reserve	NJET Debt Service	2016 Debt Service Account	2016 Debt Service Reserve	Rebate Fund		General Reserve Fund	Employment Benefit Funds
<b>Total available cash and investments</b>	\$ 19,648,799	\$ 1,137,060	\$ 2,170,419	\$ 9,557	\$ 99,005	\$ 254,968	\$ 141,056	\$ 324,382	\$ 6,762,233	\$ 1,746,553	\$ 247,736	\$ 41,197	\$ 783,509	\$ 33,366,474
<b>Cash disbursements:</b>														
Payroll	1,087,682	-	-	-	-	-	-	-	-	-	-	-	-	1,087,682
Fringe benefits	548,539	-	-	-	-	-	-	-	-	-	-	-	-	548,539
Employee deferred compensation and credit union	281,697	-	-	-	-	-	-	-	-	-	-	-	-	281,697
Operations and maintenance	2,208,158	938,276	-	-	-	-	-	-	-	-	-	-	239,378	3,385,812
NJ-American pumping costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prepaid insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Headquarters overhead	662,500	112,947	105,996	-	-	-	-	-	-	-	-	-	-	881,443
Capital assets reservoir	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital improvement program (reservoir)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of Investments securities	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Principal on bonds	-	-	-	-	-	-	-	149,671	2,880,000	-	-	-	-	3,029,671
Interest on bonds	-	-	-	-	-	-	-	26,600	563,937	-	-	-	-	590,537
<b>Total cash disbursements</b>	<b>4,788,576</b>	<b>1,051,223</b>	<b>105,996</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>176,271</b>	<b>3,443,937</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>239,378</b>	<b>9,805,381</b>
<b>Cash and investments - June 30, 2019</b>	<b>\$14,860,223</b>	<b>\$85,837</b>	<b>\$2,064,423</b>	<b>\$9,557</b>	<b>\$99,005</b>	<b>\$254,968</b>	<b>\$141,056</b>	<b>\$148,111</b>	<b>\$3,318,296</b>	<b>\$1,746,553</b>	<b>\$247,736</b>	<b>\$41,197</b>	<b>\$544,131</b>	<b>\$23,561,093</b>
<b>Summary of cash and investments:</b>														
Cash (Manasquan)	\$ 626,919	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 626,919
Cash (Water Treatment Plant/TS)	-	85,837	-	-	-	-	-	-	-	-	-	-	-	85,837
Short-term investments	13,391,449	-	-	-	-	-	-	-	-	-	-	41,197	544,131	13,976,777
Long-term investments	-	-	2,064,423	9,557	99,005	254,968	141,056	-	-	-	-	-	-	2,569,009
Restricted investments (current)	841,855	-	-	-	-	-	-	-	-	-	-	-	-	841,855
Restricted investments (long-term)	-	-	-	-	-	-	-	148,111	3,318,296	1,746,553	247,736	-	-	5,460,696
<b>Total cash and investments</b>	<b>\$ 14,860,223</b>	<b>\$ 85,837</b>	<b>\$ 2,064,423</b>	<b>\$ 9,557</b>	<b>\$ 99,005</b>	<b>\$ 254,968</b>	<b>\$ 141,056</b>	<b>\$ 148,111</b>	<b>\$ 3,318,296</b>	<b>\$ 1,746,553</b>	<b>\$ 247,736</b>	<b>\$ 41,197</b>	<b>\$ 544,131</b>	<b>\$ 23,561,093</b>

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**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

To the Commissioners of  
New Jersey Water Supply Authority

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities of the New Jersey Water Supply Authority (the "Authority"), as of and for the year ended June 30, 2019, and the related notes to financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated October 16, 2019.

**Internal Control Over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

*A deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Authority's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS (CONTINUED)**

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Purpose of this Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*Mercadien, P.C.*  
*Certified Public Accountants*

October 16, 2019

# Statistical Section

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## FINANCIAL TREND DATA

*These schedules contain trend information on the Authority's financial performance over time.*

Summary of Financial Information.....	2010 - 2019
Summary of Raritan Basin System Water Use Contracts .....	2010 - 2019
Summary of Manasquan Water Supply System Water Use Contracts .....	2010 - 2019

## DEBT CAPACITY DATA

*The schedules present information on the Authority's current levels of outstanding debt and the ability to issue debt in the future.*

Raritan Basin System Revenue Bond Coverage .....	2010 - 2019
Manasquan System Revenue Bond Coverage .....	2010 - 2019

## REVENUE CAPACITY DATA

*These schedules contain information on the Authority's most significant revenue source.*

Raritan Basin System Water Charges .....	2010 - 2019
Manasquan Water Supply System Water Charges .....	2010 - 2019

## OPERATING INFORMATION

*These schedules contain operational and infrastructure data in relation to the services the Authority provides.*

Spruce Run Rain Gauge .....	2010 - 2019
West Windsor Rain Gauge .....	2010 - 2019
Spruce Run Reservoir Storage .....	2010 - 2019
Round Valley Reservoir Storage .....	2010 - 2019
Manasquan System Rainfall .....	2010 - 2019
Manasquan Reservoir Storage Data.....	2010 - 2019

## DEBT, ECONOMIC AND DEMOGRAPHIC INFORMATION

Bonds, Notes and Loans Payable .....	2010 - 2019
Ten Largest State of New Jersey Employers .....	2008 - 2017
State of New Jersey Population and Employment Trends .....	2008 - 2017

**New Jersey Water Supply Authority**  
**Summary of Financial Information 2010 – 2019**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013*</u>
<b>REVENUE AND EXPENSES</b>				
Water sales	\$23,031,803	\$24,095,286	\$23,513,508	\$23,430,025
Reimbursement of operating exp	<u>\$2,589,276</u>	<u>\$2,501,135</u>	<u>\$2,434,806</u>	<u>\$2,495,982</u>
Total operating revenues	25,621,079	26,596,421	25,948,314	25,926,007
Operating expense	<u>19,802,840</u>	<u>20,649,747</u>	<u>23,918,001</u>	<u>21,792,193</u>
Income from operations	5,818,239	5,946,674	2,030,313	4,133,814
Non-operating revenues	681,411	632,306	2,884,459	7,283,979
Non-operating expenses	<u>4,796,487</u>	<u>4,525,435</u>	<u>4,698,000</u>	<u>4,592,986</u>
Change in net position	1,703,163	2,053,545	216,772	6,824,807
GASB 75 adjustment				
Net position, beginning of year	<u>110,275,633</u>	<u>111,978,796</u>	<u>114,032,341</u>	<u>113,845,395</u>
Net position, end of year	111,978,796	114,032,341	114,249,113	120,670,202
<b>ASSETS</b>				
Current assets, unrestricted	33,994,171	36,101,110	43,454,301	45,087,108
Current assets, restricted				14,671,723
Non-current assets	<u>177,515,802</u>	<u>174,004,657</u>	<u>166,188,362</u>	<u>149,151,534</u>
Total assets	211,509,973	210,105,767	209,642,663	208,910,365
Deferred outflows of resources				
<b>LIABILITIES</b>				
Current liabilities	9,381,563	9,510,372	9,817,272	11,411,225
Non-current liabilities	<u>90,149,614</u>	<u>86,563,054</u>	<u>85,576,278</u>	<u>79,269,979</u>
Total liabilities	99,531,177	96,073,426	95,393,550	90,681,204
Deferred Inflows of Resources				
				(2,441,041)
<b>NET ASSETS</b>				
Net investment in capital assets	75,184,140	77,691,938	78,090,867	83,560,654
Restricted for repayment debt principal and interest	12,006,417	12,011,721	11,924,238	12,126,909
Unrestricted	<u>24,788,239</u>	<u>24,328,682</u>	<u>24,234,008</u>	<u>24,982,639</u>
Total net position	\$111,978,796	\$114,032,341	\$114,249,113	\$120,670,202

\* Certain balances have been reclassified or restated to conform to current year presentation.

**New Jersey Water Supply Authority**  
**Summary of Financial Information 2009 – 2018**

2014*	2015	2016	2017*	2018	2019
\$23,240,511	\$24,168,432	\$25,199,424	\$25,394,799	\$30,030,868	\$30,060,964
<u>\$2,600,238</u>	<u>\$2,642,400</u>	<u>\$2,642,400</u>	<u>\$2,642,400</u>	<u>\$2,642,400</u>	<u>\$2,642,400</u>
25,840,749	26,810,832	27,841,824	28,037,199	32,673,268	32,703,364
<u>20,750,987</u>	<u>21,449,303</u>	<u>21,413,585</u>	<u>24,686,037</u>	<u>25,036,260</u>	<u>23,365,229</u>
5,089,762	5,361,529	6,428,239	3,351,162	7,637,008	9,338,135
603,011	531,655	1,186,165	2,906	559,918	1,281,332
<u>4,680,739</u>	<u>2,140,777</u>	<u>2,101,399</u>	<u>(2,025,379)</u>	<u>1,017,778</u>	<u>1,256,549</u>
1,012,034	3,752,407	5,513,005	5,379,447	7,179,148	9,362,918
			(37,744,085)		
<u>120,670,202</u>	<u>104,343,335</u>	<u>108,095,742</u>	<u>113,608,747</u>	<u>81,244,109</u>	<u>88,423,257</u>
121,682,236	108,095,742	113,608,747	81,244,109	88,423,257	97,786,175
41,600,989	42,450,358	46,612,558	49,025,001	100,119,822	103,682,146
12,336,186	12,339,659	7,032,591	9,427,648	15,609,357	23,143,255
<u>153,571,758</u>	<u>153,061,564</u>	<u>151,909,258</u>	<u>150,570,753</u>	<u>155,152,378</u>	<u>163,446,160</u>
207,508,933	207,851,581	205,554,407	209,023,402	270,881,557	290,271,561
	1,280,619	3,646,920	9,612,405	7,402,086	6,967,231
10,041,207	9,039,888	6,027,320	8,585,118	16,190,347	14,443,745
<u>75,345,060</u>	<u>89,372,731</u>	<u>86,489,391</u>	<u>128,466,486</u>	<u>162,703,934</u>	<u>163,822,237</u>
85,386,267	98,412,619	92,516,711	137,051,604	178,894,281	178,265,982
440,430	2,623,839	3,075,869	340,094	10,966,105	21,186,635
87,589,285	91,638,454	98,890,303	61,887,512	59,275,272	57,912,526
9,084,491	9,229,092	3,876,937	7,262,065	13,434,461	20,058,979
<u>25,008,460</u>	<u>7,228,196</u>	<u>10,841,507</u>	<u>12,094,532</u>	<u>15,713,524</u>	<u>19,814,670</u>
\$121,682,236	\$108,095,742	\$113,608,747	\$81,244,109	\$88,423,257	\$97,786,175

**New Jersey Water Supply Authority  
Raritan Basin System  
Summary of Water Use Contracts  
Daily Contract in Million Gallons Per Day – MGD**

<u>WATER USER</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
UNITED WATER LAMBERTVILLE, INC	0.490	0.490	0.490	0.490	0.490
MERCER COUNTY PARK - GOLF	0.132	0.132	0.132	0.132	0.067
TRENTON COUNTRY CLUB	0.126	0.126	0.126	0.126	0.126
PRINCETON UNIVERSITY	0.150	0.150	0.150	0.150	0.150
NORTH BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
NEW JERSEY AMERICAN WATER	126.600	126.600	126.600	126.600	126.600
EAST BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
NEW BRUNSWICK, CITY OF	10.500	10.500	10.500	10.500	10.500
MIDDLESEX WATER COMPANY	27.000	27.000	27.000	27.000	27.000
ROYCE BROOK GOLF CLUB	0.165	0.165	0.165	0.165	0.165
DUKE FARMS	0.075	0.075	0.075	0.075	0.000
BOROUGH OF GLEN GARDNER	0.008	0.008	0.008	0.008	0.008
RIDGE AT BACK BROOK	0.111	0.111	0.111	0.111	0.111
ROXBURY WATER COMPANY	0.074	0.074	0.074	0.074	0.074
HUNTERDON COUNTY (HERON GLEN GOLF)	0.261	0.066	0.079	0.079	0.079
RARITAN VALLEY COUNTRY CLUB	0.012	0.012	0.012	0.012	0.012
EAST WINDSOR MUA	0.011	0.011	0.011	0.011	0.011
SOMERSET CTY (NESCHANIC VALLEY GOLF)	0.116	0.142	0.142	0.142	0.142
TRUMP NATIONAL GOLF CLUB	0.080	0.080	0.080	0.170	0.170
MORRIS COUNTY MUA	0.079	0.079	0.079	0.079	0.079
APPLIED WATER MGMT (MT. OLIVE TWP)	0.010	0.010	0.010	0.010	0.010
WASHINGTON TOWNSHIP MUA	0.025	0.025	0.025	0.025	0.025
ROXITICUS GOLF CLUB	0.046	0.046	0.046	0.046	0.046
HAMILTON GOLF CLUB	0.138	0.138	0.138	0.138	0.138
SPRINGDALE GOLF CLUB	0.098	0.098	0.098	0.098	0.098
NJ DEPT OF CORRECTIONS	0.025	0.025	0.025	0.025	0.025
STONEBRIDGE COMMUNITY ASSOC				0.081	0.081
VILLAGE GRANDE @ BEAR CREEK					0.074
EASTERN CONCRETE MATERIALS					
HUNTERDON MEDICAL CENTER					
PRINCETON UNIVERSITY OPERATIONS					
RENAISSANCE AT MONROE CONDOMINIUM ASSOCIATION					
<b>SYSTEM TOTAL</b>	<u>182.332</u>	<u>182.163</u>	<u>182.176</u>	<u>182.347</u>	<u>182.281</u>

**New Jersey Water Supply Authority  
Raritan Basin System  
Summary of Water Use Contracts  
Daily Contract in Million Gallons Per Day – MGD**

<u>WATER USER</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
UNITED WATER LAMBERTVILLE, INC	0.490	0.490	0.490	0.490	0.490
MERCER COUNTY PARK COMMISSION	0.067	0.067	0.067	0.067	0.067
TRENTON COUNTRY CLUB	0.126	0.126	0.126	0.126	0.126
PRINCETON UNIVERSITY	0.150	0.150	0.150	0.150	0.150
NORTH BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
NEW JERSEY AMERICAN WATER	126.600	126.600	126.600	126.600	126.600
EAST BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
NEW BRUNSWICK, CITY OF	10.500	10.500	10.500	10.500	10.500
MIDDLESEX WATER COMPANY	27.000	27.000	27.000	27.000	27.000
ROYCE BROOK GOLF CLUB	0.165	0.165	0.165	0.165	0.165
DUKE FARMS	0.000	0.000	0.000	0.000	0.000
BOROUGH OF GLEN GARDNER	0.008	0.008	0.008	0.008	0.008
RIDGE AT BACK BROOK	0.111	0.111	0.111	0.111	0.111
ROXBURY WATER COMPANY	0.041	0.041	0.041	0.041	0.041
HUNTERDON COUNTY (HERON GLEN GOLF)	0.079	0.079	0.079	0.079	0.079
RARITAN VALLEY COUNTRY CLUB	0.012	0.012	0.012	0.012	0.012
EAST WINDSOR MUA	0.011	0.011	0.011	0.011	0.011
SOMERSET CTY (NESCHANIC VALLEY GOLF)	0.142	0.142	0.142	0.142	0.142
TRUMP NATIONAL GOLF CLUB	0.170	0.170	0.170	0.170	0.170
MORRIS COUNTY MUA	0.079	0.079	0.079	0.079	0.079
APPLIED WATER MGMT (MT. OLIVE TWP)	0.010	0.010	0.010	0.010	0.010
WASHINGTON TOWNSHIP MUA	0.025	0.035	0.035	0.035	0.035
ROXITICUS GOLF CLUB	0.046	0.046	0.046	0.046	0.046
HAMILTON FARM GOLF CLUB	0.138	0.138	0.138	0.138	0.138
SPRINGDALE GOLF CLUB	0.098	0.098	0.098	0.098	0.098
NJ DEPT OF CORRECTIONS	0.025	0.025	0.025	0.025	0.025
STONEBRIDGE COMMUNITY ASSOC	0.081	0.081	0.081	0.081	0.081
VILLAGE GRANDE@ BEAR CREEK	0.074	0.074	0.074	0.074	0.074
EASTERN CONCRETE MATERIALS	0.023	0.023	0.023	0.023	0.023
HUNTERDON MEDICAL CENTER		0.031	0.031	0.031	0.031
PRINCETON UNIVERSITY OPERATIONS		0.027	0.027	0.027	0.027
RENAISSANCE AT MONROE CONDOMINIUM ASSOCIATION			0.014	0.014	0.014
<b>SYSTEM TOTAL</b>	<b>182.271</b>	<b>182.339</b>	<b>182.353</b>	<b>182.353</b>	<b>182.353</b>

**New Jersey Water Supply Authority  
Manasquan Water Supply System  
Summary of Water Use Contracts  
Daily Contract in Million Gallons Per Day – MGD**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
WALL TOWNSHIP	2.275	2.275	2.275	2.275	2.275
BOROUGH OF AVON	0.142	0.142	0.142	0.142	0.142
SHORELANDS WATER COMPANY	1.928	1.928	1.928	1.928	1.928
NEW JERSEY AMERICAN WATER	12.5	12.5	12.5	12.5	12.5
BOROUGH OF RED BANK	0.778	0.778	0.778	0.778	0.778
BOROUGH OF SEA GIRT	0.075	0.075	0.075	0.075	0.075
BOROUGH OF SPRING LAKE	0.31	0.31	0.31	0.31	0.31
BOROUGH OF SPRING LAKE HEIGHTS	0.425	0.425	0.425	0.425	0.425
BOROUGH OF BELMAR	0.65	0.65	0.65	0.65	0.65
BOROUGH OF BRIELLE	0.45	0.45	0.45	0.45	0.45
BOROUGH OF KEYPORT	0.458	0.458	0.458	0.458	0.458
BOROUGH OF MATAWAN	0.469	0.469	0.469	0.469	0.469
BOROUGH OF LAKE COMO	0.100	0.100	0.100	0.100	0.100
	<u>20.560</u>	<u>20.560</u>	<u>20.560</u>	<u>20.560</u>	<u>20.560</u>
	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
WALL TOWNSHIP	2.275	2.00	2.00	2.00	2.00
BOROUGH OF AVON	0.142	0.126	0.126	0.126	0.126
SHORELANDS WATER COMPANY	1.928	2.007	2.007	2.007	2.007
NEW JERSEY AMERICAN WATER	12.5	12.5	12.5	12.5	12.5
BOROUGH OF RED BANK	0.778	0.548	0.548	0.548	0.548
BOROUGH OF SEA GIRT	0.075	0.04	0.04	0.04	0.04
BOROUGH OF SPRING LAKE	0.31	0.31	0.31	0.31	0.31
BOROUGH OF SPRING LAKE HEIGHTS	0.425	0.386	0.386	0.386	0.386
BOROUGH OF BELMAR	0.65	0.288	0.288	0.288	0.288
BOROUGH OF BRIELLE	0.45	0.45	0.45	0.45	0.45
BOROUGH OF KEYPORT	0.458	0.356	0.356	0.356	0.356
BOROUGH OF MATAWAN	0.469	0.332	0.332	0.332	0.332
BOROUGH OF LAKE COMO	0.100	0.100	0.100	0.100	0.100
	<u>20.560</u>	<u>19.443</u>	<u>19.443</u>	<u>19.443</u>	<u>19.443</u>



**New Jersey Water Supply Authority**  
**Raritan Basin System**  
**Series 1988, D&R System Revenue Bond Coverage\*<sup>1</sup>**  
**Series 1998, D&R System Revenue Refunding Bond Coverage**

Fiscal Year	Gross Revenue	Operating Expenses	Net Revenue Available for Debt Service	Debt Service Payments	Coverage
2019 <sup>2</sup>					
2018 <sup>2</sup>					
2017 <sup>2</sup>					
2016 <sup>2</sup>					
2015 <sup>2</sup>					
2014	\$17,584,676	\$12,099,450	\$5,485,226	\$2,669,875	2.05
2013	\$17,504,982	\$11,677,600	\$5,827,382	\$2,670,997	2.18
2012	\$17,799,191	\$11,935,100	\$5,864,091	\$2,680,266	2.19
2011	\$18,055,011	\$11,765,800	\$6,289,211	\$2,688,219	2.34
2010	\$17,968,946	\$11,678,300	\$6,290,646	\$2,698,931	2.33

Note 1. Section 713 of the Delaware & Raritan Canal - Spruce Run/Round Valley Reservoirs System Bond Resolution, adopted November 17, 1988, requires that the Net Revenues in each fiscal year be at least 120% of the Debt Service on the 1988 bonds for the twelve-month period in such fiscal year.

Note 2. The last principal payment of \$2,600,000 was made on November 1, 2013.

**Manasquan Water Supply System**  
**Series 2005, Manasquan System Revenue Bond Coverage\*<sup>1</sup>**

Fiscal Year	Gross Revenue	Operating Expenses	Net Revenue Available for Debt Service	Debt Service Payments	Coverage
2019	\$7,838,524	\$3,026,023	\$4,812,501	\$3,443,937	1.397
2018	\$7,686,455	\$3,146,165	\$4,540,290	\$3,454,588	1.314
2017	\$8,075,400	\$3,171,399	\$4,904,001	\$718,532	6.825
2016	\$8,519,609	\$3,032,555	\$5,487,054	\$3,969,827	1.382
2015	\$8,715,369	\$3,096,047	\$5,619,322	\$4,250,454	1.322
2014	\$8,456,993	\$2,981,200	\$5,475,793	\$4,082,274	1.340
2013	\$8,174,391	\$2,862,600	\$5,311,791	\$4,080,204	1.300
2012	\$8,210,668	\$2,866,100	\$5,344,568	\$4,071,454	1.310
2011	\$7,976,636	\$2,956,600	\$5,020,036	\$3,809,328	1.320
2010	\$7,785,670	\$2,823,200	\$4,962,470	\$3,816,713	1.300

Note 1. Section 712 of the Manasquan Reservoir System Bond Resolution, adopted June 6, 2005 as supplemented by the Second Supplemental Bond Resolution, adopted April 4, 2016, requires that the Net Revenues in each fiscal year be at least 120% of the Debt Service on the 2005 and 2016 Bonds for the twelve-month period in such fiscal year.

\* Numbers to calculate bond coverage were extracted from the corresponding budget for the applicable fiscal year.

**New Jersey Water Supply Authority  
Delaware and Raritan Canal – Spruce Run/Round Valley Reservoirs System  
Water Charges Per Million Gallons of Raw Water Daily**

<u>EFFECTIVE DATE</u>	<u>7/1/2010</u>	<u>7/1/2011</u>	<u>7/1/2012</u>	<u>7/1/2013</u>	<u>7/1/2014</u>
RATE PER MGD	\$231.00	\$231.00	\$231.00	\$231.00	\$246.00

<u>EFFECTIVE DATE</u>	<u>7/1/2015</u>	<u>7/1/2016</u>	<u>7/1/2017</u>	<u>7/1/2018</u>	<u>7/1/19</u>
RATE PER MGD	\$253.00	\$253.00	\$336.00	\$336.00	\$336.00

**New Jersey Water Supply Authority  
Manasquan Water Supply System  
Water Charges Per Million Gallons of Raw Water Daily**

<u>EFFECTIVE DATE</u>	<u>7/01/2010</u>	<u>7/01/2011</u>	<u>7/01/2012</u>	<u>7/01/2013</u>	<u>7/01/2014</u>
RATE PER MGD	\$980.48	\$1,015.90	\$1,015.90	\$1,015.90	\$1,015.90
(Delayed Contracts)	\$1,167.98	\$1,168.71	\$1,168.49	\$1,168.49	\$1,168.49

<u>EFFECTIVE DATE</u>	<u>7/01/2015</u>	<u>7/01/2016</u>	<u>7/01/2017</u>	<u>7/01/2018</u>	<u>7/01/2019</u>
RATE PER MGD	\$1,057.40	\$1,104.58	\$1,043.35	\$1,043.35	\$1,043.35
(Delayed Contracts)	\$1,190.86	\$1,238.04	\$1,137.76	\$1,137.76	\$1,137.76

**New Jersey Water Supply Authority  
Raritan Basin System  
Spruce Run Rain Gauge (inches)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2019	5.27	2.93	4.51	4.39	10.29	7.15	8.19	5.40	1.23	6.99	2.73	4.95	64.03
2018	2.99	6.64	4.78	5.95	5.66	3.38	9.47	9.83	9.52	4.11	12.77	8.58	83.68
2017	3.32	1.87	4.91	2.66	5.15	3.08	7.88	4.87	2.47	5.76	1.52	1.44	44.93
2016	2.03	4.60	1.11	1.66	4.07	3.03	7.00	2.98	1.74	0.53	3.02	3.25	35.02
2015	2.38	0.86	3.91	2.03	2.38	5.98	2.02	0.78	2.76	3.37	1.66	4.23	32.36
2014	2.56	2.04	3.12	7.35	2.66	4.25	3.96	1.96	1.57	3.20	3.48	3.38	39.53
2013	2.67	1.65	2.08	2.16	6.27	10.40	5.85	3.79	3.94	0.79	2.77	3.66	46.03
2012	2.99	0.94	0.84	2.86	3.67	3.88	1.78	2.80	4.34	2.68	0.73	4.58	32.09
2011	0.87	2.93	6.97	6.48	4.38	2.62	4.19	14.21	13.49	1.63	4.90	4.09	66.76
2010	2.30	1.90	7.40	3.10	3.60	3.50	8.20	1.30	3.30	4.30	1.94	2.52	43.36
TOTAL	27.38	26.36	39.63	38.64	48.13	47.27	58.54	47.92	44.36	33.36	35.52	40.68	487.79
AVERAGE	2.74	2.64	3.96	3.86	4.81	4.73	5.85	4.79	4.44	3.34	3.55	4.07	48.78
MAXIMUM	5.27	6.64	7.40	7.35	10.29	10.40	9.47	14.21	13.49	6.99	12.77	8.58	83.68
MINIMUM	0.87	0.86	0.84	1.66	2.38	2.62	1.78	0.78	1.23	0.53	0.73	1.44	32.09

**New Jersey Water Supply Authority  
Raritan Basin System  
West Windsor Rain Gauge (inches)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2019	4.34	3.38	3.93	4.84	7.57	4.61	5.46	2.66	1.21	6.46	2.17	5.57	52.20
2018	2.89	7.05	4.80	4.74	5.98	3.99	6.03	4.57	8.39	2.16	8.88	6.56	66.04
2017	4.35	1.38	3.74	3.86	6.59	5.16	5.41	7.90	2.69	4.94	1.68	1.60	49.30
2016	2.21	5.30	2.29	1.49	3.83	1.82	9.42	1.11	2.10	2.18	3.78	3.30	38.83
2015	3.18	2.46	5.53	2.54	1.38	6.04	2.79	1.72	3.27	5.27	1.98	5.28	41.44
2014	2.59	3.45	4.59	7.36	3.05	3.58	7.61	2.80	1.05	4.42	5.00	5.35	50.85
2013	3.15	2.59	3.06	2.40	3.48	10.78	5.70	4.87	2.37	0.87	3.83	3.88	46.98
2012	3.51	1.73	1.58	2.94	5.58	3.82	4.94	4.93	2.36	5.30	1.42	4.99	43.10
2011	1.06	2.88	5.93	6.87	5.14	3.42	4.56	17.31	9.11	1.00	3.49	4.22	64.99
2010	2.70	2.90	10.30	3.20	3.00	2.20	2.70	2.60	2.90	4.80	2.31	2.97	42.58
TOTAL	29.98	33.12	45.75	40.24	45.60	45.42	54.62	50.47	35.45	37.40	34.54	43.72	496.31
AVERAGE	3.00	3.31	4.58	4.02	4.56	4.54	5.46	5.05	3.55	3.74	3.45	4.37	49.63
MAXIMUM	4.35	7.05	10.30	7.36	7.57	10.78	9.42	17.31	9.11	6.46	8.88	6.56	66.04
MINIMUM	1.06	1.38	1.58	1.49	1.38	1.82	2.70	1.11	1.05	0.87	1.42	1.60	38.83

**New Jersey Water Supply Authority  
Raritan Basin System  
Spruce Run Rain Reservoir Storage  
Billion Gallons**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	11.2	11.1	11.0	10.6	10.7	11.1	11.0	11.0	10.3	9.4	9.4	9.5
2018	5.6	6.0	7.9	9.9	11.1	11.0	11.0	10.9	10.9	10.5	10.3	11.1
2017	4.1	4.9	5.3	6.6	8.1	9.3	9.8	10.4	10.4	8.1	6.2	6.1
2016	5.3	6.0	8.2	8.9	9.3	9.8	7.8	7.0	6.2	4.9	3.7	3.7
2015	5.8	6.4	6.3	8.8	9.8	10.1	10.7	9.7	7.1	5.4	4.9	5.3
2014	8.4	9.1	9.2	10.0	11.4	10.5	10.5	10.5	8.2	5.0	4.5	4.7
2013	7.8	8.5	9.2	9.8	10.6	11.0	10.9	10.7	10.6	9.8	8.3	7.5
2012	9.9	10.2	10.1	10.5	11.0	11.0	10.9	9.2	8.0	6.4	6.3	6.4
2011	8.2	8.3	9.9	10.8	11.0	11.0	11.0	10.0	11.0	11.2	9.9	10.8
2010	10.7	10.5	10.7	11.2	11.0	11.0	10.5	9.3	7.9	6.1	7.1	7.4
AVERAGE	7.7	8.1	8.8	9.7	10.4	10.6	10.4	9.9	9.1	7.7	7.1	7.3
MAXIMUM	11.2	11.1	11.0	11.2	11.4	11.1	11.0	11.0	11.0	11.2	10.3	11.1
MINIMUM	4.1	4.9	5.3	6.6	8.1	9.3	7.8	7.0	6.2	4.9	3.7	3.7

MAXIMUM CAPACITY 11.0 BG

**New Jersey Water Supply Authority  
Raritan Basin System  
Round Valley Reservoir Storage  
Billion Gallons**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	47.4	47.7	47.1	47.5	47.8	47.8	47.3	46.6	45.4	41.1	37.9	35.9
2018	42.1	41.3	41.7	42.0	44.7	47.0	47.0	47.0	47.0	47.2	47.2	47.7
2017	36.2	36.9	37.4	38.7	40.4	42.6	43.0	43.1	42.8	42.6	42.7	42.5
2016	44.3	44.5	44.9	45.0	45.0	45.7	45.6	44.3	43.4	39.4	37.0	35.9
2015	48.5	48.7	48.7	49.1	49.2	49.0	49.1	49.0	47.4	44.6	44.1	44.3
2014	52.6	52.7	53.1	53.3	53.9	53.7	51.7	50.1	49.9	49.6	48.6	48.4
2013	51.6	51.7	51.7	51.8	51.8	52.1	52.7	53.1	53.2	53.0	52.6	52.5
2012	52.6	52.7	52.7	52.7	52.8	53.1	52.9	51.5	51.6	51.5	51.7	51.3
2011	48.1	48.2	48.4	48.9	51.2	52.0	52.0	51.0	51.6	52.1	52.1	52.3
2010	54.7	54.8	55.0	55.1	54.8	55.1	54.6	53.4	50.5	48.4	48.2	48.2
AVERAGE	47.81	47.92	48.08	48.42	49.16	49.81	49.60	48.91	48.27	46.95	46.20	45.90
MAXIMUM	54.7	54.8	55.0	55.1	54.8	55.1	54.6	53.4	53.2	53.0	52.6	52.5
MINIMUM	36.2	36.9	37.4	38.7	40.4	42.6	43.0	43.1	42.8	39.4	37.0	35.9

MAXIMUM CAPACITY 55.0 BG

**New Jersey Water Supply Authority  
Manasquan Water System Rainfall (inches)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2019	4.23	3.43	4.2	4.55	6.29	5.35	5.36	3.48	1.23	4.80	1.56	7.07
2018	3.31	7.63	7.20	4.01	10.34	2.89	6.16	7.02	8.00	6.37	9.30	6.12
2017	5.01	1.22	7.68	3.96	8.07	2.31	4.13	4.17	2.49	5.98	2.52	1.36
2016	2.15	3.81	1.94	2.15	3.42	1.54	7.59	0.58	4.49	3.58	2.93	3.63
2015	5.20	1.87	4.29	2.29	1.14	5.44	3.01	2.35	2.11	4.82	2.42	4.49
2014	2.31	3.16	3.13	6.95	2.92	3.46	6.42	5.79	1.77	5.07	5.33	5.81
2013	2.66	3.65	3.08	2.17	4.24	9.29	4.31	3.55	1.92	1.06	2.61	7.71
2012	2.48	1.45	1.48	2.87	4.30	5.03	3.21	5.75	5.79	5.01	1.87	4.51
2011	4.26	2.39	5.00	5.13	3.38	2.71	3.71	17.87	5.62	4.51	3.33	4.75
2010	2.52	3.85	10.47	2.51	3.58	1.17	5.88	0.97	3.99	4.23	1.98	10.47
TOTAL	34.13	32.46	48.47	36.59	47.68	39.19	49.78	51.53	37.41	45.43	33.85	55.92
AVERAGE	3.41	3.25	4.85	3.66	4.77	3.92	4.98	5.15	3.74	4.54	3.39	5.59
MAXIMUM	5.20	7.63	10.47	6.95	10.34	9.29	7.59	17.87	8.00	6.37	9.30	10.47
MINIMUM	2.15	1.22	1.48	2.15	1.14	1.17	3.01	0.58	1.23	1.06	1.56	1.36

NOTE: The Manasquan System started operations July 1, 1990

**New Jersey Water Supply Authority  
Manasquan Water Reservoir Storage Data  
Billion Gallons**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2019	4.53	4.49	4.61	4.55	4.61	4.58	4.44	4.35	4.17	3.98	4.08	4.17
2018	4.17	4.64	4.66	4.64	4.62	4.59	4.43	4.54	4.58	4.58	4.55	4.53
2017	4.37	4.61	4.56	4.62	4.60	4.54	4.34	4.14	4.00	3.76	4.00	4.05
2016	4.44	4.60	4.58	4.60	4.58	4.38	4.02	3.71	3.19	3.02	3.01	3.52
2015	4.58	4.54	4.52	4.59	4.60	4.51	4.34	3.91	3.35	3.12	3.20	3.52
2014	4.59	4.62	4.61	4.62	4.62	4.55	4.35	4.15	3.64	3.52	3.86	4.46
2013	4.57	4.61	4.58	4.52	4.59	4.35	4.21	3.88	3.69	3.47	3.42	4.33
2012	4.59	4.51	4.56	4.56	4.56	4.39	4.08	4.85	3.83	3.66	3.92	4.49
2011	4.26	4.37	4.48	4.56	4.56	4.49	4.32	4.15	3.98	3.95	4.39	4.13
2010	4.60	4.58	4.64	4.60	4.58	4.32	3.92	3.52	3.03	3.18	3.23	3.48
AVERAGE	4.47	4.56	4.58	4.58	4.59	4.47	4.24	4.12	3.75	3.62	3.77	4.07
MAXIMUM	4.60	4.64	4.66	4.64	4.62	4.59	4.44	4.85	4.58	4.58	4.55	4.53
MINIMUM	4.17	4.37	4.48	4.52	4.56	4.32	3.92	3.52	3.03	3.02	3.01	3.48

MAXIMUM CAPACITY 4.7 BG

**New Jersey Water Supply Authority  
Bonds, Notes and Loans Payable**

Fiscal Year Ending	Revenue Bonds	Deferred Notes to the State of New Jersey	Loans to the State of New Jersey and NJEIT	Total Bonds, Notes and Loans Payable	Outstanding Debt to Total Personal Income Ratio <sup>1</sup>	Outstanding Debt Per Capita Ratio <sup>2</sup>
2019	\$12,619,179	\$33,566,892	\$74,976,680	\$121,162,751	0.066%	\$49.15
2018	\$15,748,257	\$33,566,892	\$60,811,617	\$110,126,766	0.060%	\$44.16
2017	\$18,802,335	\$33,566,892	\$12,318,018	\$64,687,245	0.037%	\$25.94
2016	\$19,281,414	\$33,566,892	\$13,382,948	\$66,231,254	0.040%	\$26.74
2015	\$27,135,913	\$33,647,103	\$14,379,107	\$75,162,123	0.047%	\$30.38
2014	\$30,058,222	\$33,649,796	\$15,420,970	\$79,128,988	0.051%	\$32.03
2013	\$35,456,893	\$33,652,337	\$16,393,574	\$85,502,804	0.058%	\$34.72
2012	\$40,607,618	\$33,654,736	\$17,198,649	\$91,461,003	0.063%	\$37.30
2011	\$45,524,920	\$33,657,001	\$12,822,647	\$92,004,568	0.065%	\$37.69
2010	\$50,234,457	\$33,659,135	\$11,442,033	\$95,335,625	0.071%	\$39.21

Note 1. Total personal income for the service area of Hunterdon, Middlesex, Somerset, Union and Monmouth Counties using New Jersey Department of Labor and Workforce Development Total Personal Income for all New Jersey Counties: 1969 to 2015 and Bureau of Economic Analysis, U.S. Department of Commerce Personal Income Growth 2016, 2017; estimates for 2018 based on first 3 quarters

Note 2. Population estimates for the service area of Hunterdon, Middlesex, Somerset, Union and Monmouth Counties using New Jersey Department of Labor and Workforce Development Estimates of County Population April 1, 2010 to July 1, 2017  
Source: US Bureau of the Census, 2017 Population Estimates, June 21, 2018

**State of New Jersey Ten Largest Employers  
2017 as Compared To 2008**

<b>2017*</b> RANK	<b>EMPLOYER</b>	<b>NEW JERSEY EMPLOYEES</b>	<b>PERCENTAGE OF TOTAL NEW JERSEY EMPLOYMENT</b>
1	New Jersey State Government	64,522	1.5%
2	Wakefern Food Corporation (ShopRite)	39,500	0.9
3	Wal-Mart Stores, Inc.	20,563	0.5
4	United Parcel Service (UPS)	19,243	0.5
5	Verizon Communications	14,600	0.3
6	Johnson & Johnson	14,500	0.3
7	The Home Depot	13,806	0.3
8	Amazon	13,000	0.3
9	United Airlines	12,000	0.3
10	Public Service Electric and Gas Company	10,758	0.3
		222,492	5.2%

<b>2008</b> RANK	<b>EMPLOYER</b>	<b>NEW JERSEY EMPLOYEES</b>	<b>PERCENTAGE OF TOTAL NEW JERSEY EMPLOYMENT</b>
1	New Jersey State Government	76,229	1.8%
2	Wakefern Food Corporation (ShopRite)	34,356	0.8
3	Verizon Communications	18,000	0.4
4	The Great Atlantic and Pacific Tea Company	17,406	0.4
5	Wal-Mart Stores, Inc.	16,868	0.4
6	United Parcel Service (UPS)	15,035	0.4
7	Harrah's Entertainment, Inc.	14,773	0.3
8	Continental Airlines	14,000	0.3
9	Johnson & Johnson	14,000	0.3
10	Home Depot	11,300	0.3
		231,967	5.4%

**Notes:**

Aggregate New Jersey resident employment for Calendar Years 2017 and 2008 totaled 4.3 million and 4.2 million, respectively. New Jersey State Government data excludes State authorities, colleges and universities. New Jersey Business' Top 100 Employers data derived from annual questionnaires submitted by private sector respondents, excluding government, higher education institutions, and non-profit hospitals. Data reprinted with permission from the New Jersey Business and Industry Association.

**Sources:**

Pytell, J. (2018, August). "Employment Matters, 46<sup>th</sup> annual top 100 employers." *New Jersey Business Magazine*. 64(8), 23-34.  
 Saliba, G.N. (2009, September). "37<sup>th</sup> annual top 100 employers." *New Jersey Business Magazine*, 55(9), 62-68.  
 New Jersey Department of the Treasury, Office of Management and Budget.  
 New Jersey Department of the Treasury, Office of Revenue & Economic Analysis.

\* Most recent available data.

**State of New Jersey  
Population and Employment Trends  
(Expressed in Thousands)**

YEAR	NEW JERSEY POPULATION	CIVILIAN LABOR FORCE <sup>1</sup>	RESIDENT EMPLOYMENT <sup>1</sup>	RESIDENT UNEMPLOYMENT <sup>1</sup>	NEW JERSEY UNEMPLOYMENT RATE <sup>2</sup>	UNITED STATES UNEMPLOYMENT RATE <sup>2</sup>
2008	8,711	4,531	4,218	313	6.9%	7.3%
2009	8,756	4,544	4,099	446	9.8	9.9
2010	8,804	4,553	4,122	431	9.5	9.3
2011	8,845	4,580	4,159	421	9.2	8.5
2012	8,882	4,594	4,173	422	9.2	7.9
2013	8,914	4,503	4,172	330	7.3	6.7
2014	8,943	4,549	4,251	298	6.5	5.6
2015	8,960	4,532	4,303	230	5.1	5.0
2016	8,978	4,527	4,313	214	4.7	4.7
2017	9,006	4,514	4,300	214	4.7	4.1

**Notes:**

<sup>1</sup> New Jersey Population, Civilian Labor Force, Resident Employment, and Unemployment data for 2008 through 2016 has been revised to reflect seasonally adjusted data.

<sup>2</sup> New Jersey Unemployment Rate and United States Unemployment Rate data for 2008 through 2016 has been revised to reflect seasonally adjusted data.

**Sources:**

United States Department of Labor, Bureau of Labor Statistics.

New Jersey Department of the Treasury, Office of Revenue & Economic Analysis.

**State of New Jersey  
Valuations of Taxable Real Property, Personal and Per Capita Income  
(Expressed in Millions Except as Indicated)**

YEAR	NEW JERSEY POPULATION (Thousands) <sup>1</sup>	ASSESSED VALUATION OF PROPERTY	TRUE VALUATION OF PROPERTY	PERSONAL INCOME <sup>2</sup>	PER CAPITA INCOME (Thousands) <sup>3</sup>
2008	8,711	\$ 834,782	\$ 1,326,297	\$ 455,850	\$ 52.3
2009	8,756	893,342	1,355,004	442,746	50.5
2010	8,804	959,282	1,331,604	451,895	51.3
2011	8,845	983,963	1,278,578	473,743	53.6
2012	8,882	988,356	1,235,474	490,611	55.2
2013	8,914	990,697	1,183,032	494,040	55.4
2014	8,943	971,600	1,158,322	514,382	57.5
2015	8,960	983,032	1,164,399	538,220	60.1
2016	8,978	981,731	1,183,048	549,836	61.2
2017	9,006	1,000,760	1,207,591	563,339	62.6

**Notes:**

<sup>1</sup> New Jersey Population data for 2011 through 2016 has been revised.

<sup>2</sup> Personal Income data for 2014 through 2016 has been revised.

<sup>3</sup> Per Capita Income equals Personal Income divided by New Jersey Population.

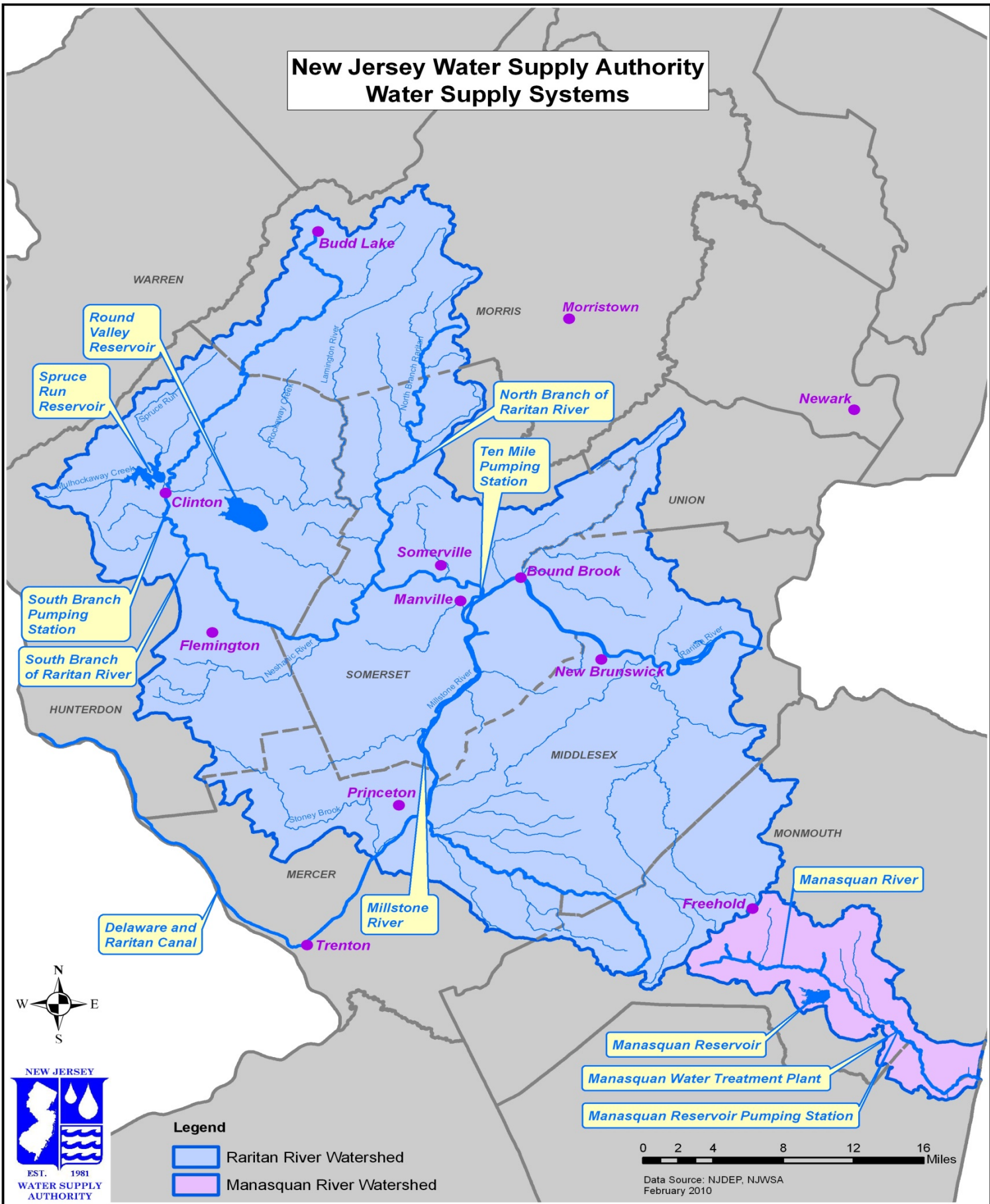
**Sources:**

United States Census Bureau, Population Division.

New Jersey Department of the Treasury, Office of Revenue & Economic Analysis.



# New Jersey Water Supply Authority Water Supply Systems



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