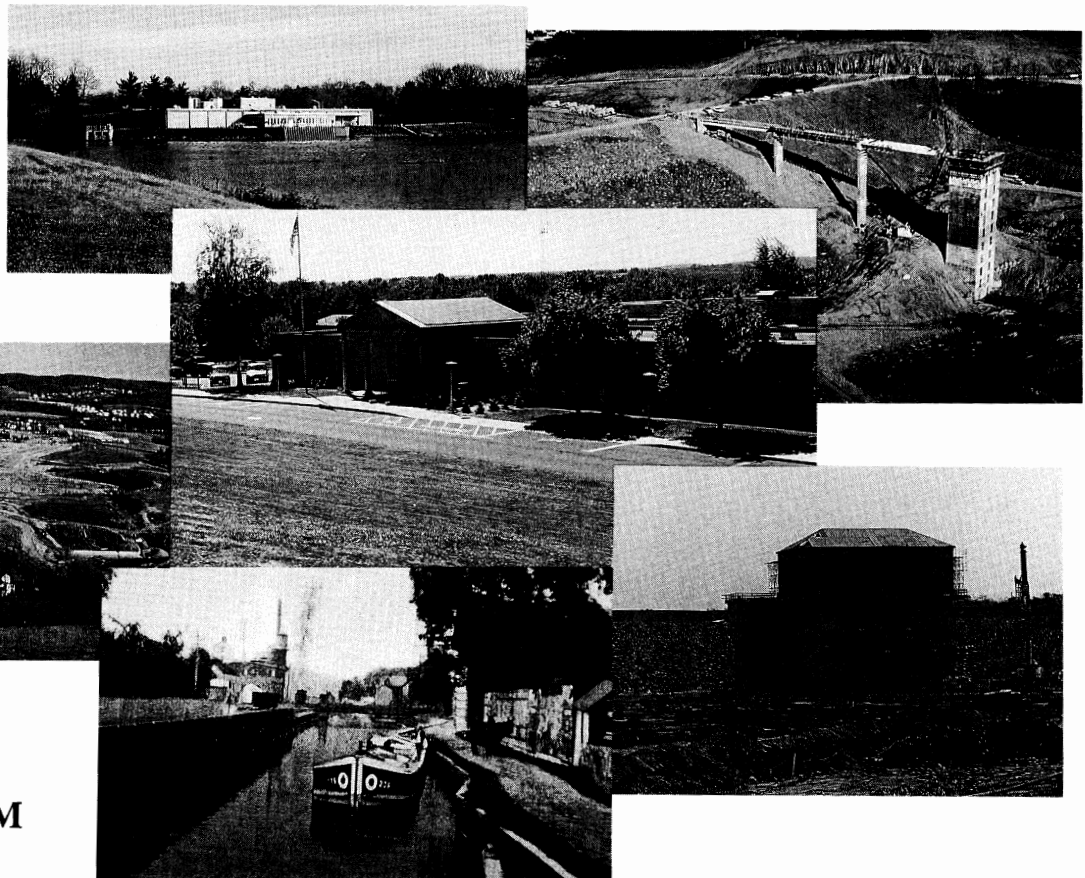


NEW JERSEY WATER SUPPLY AUTHORITY

**READY
FOR A
NEW**



**MILLENNIUM
OF
PROGRESS**

**1999 ANNUAL REPORT
AND THE
COMPREHENSIVE ANNUAL
FINANCIAL REPORT
FOR THE YEAR ENDED JUNE 30, 1999**

Certificate of Achievement for Excellence in Financial Reporting

Presented to

New Jersey Water Supply Authority

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
June 30, 1998

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.



Douglas R. Ellaworth
President

Jeffrey L. Esser
Executive Director

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

1999 ANNUAL REPORT

AND THE
COMPREHENSIVE ANNUAL FINANCIAL REPORT



FOR THE YEAR ENDED
JUNE 30, 1999

1999 Annual Report

Governor

Christine Todd Whitman



Authority Members

Robert C. Shinn, Jr.
Chair

Peggy Haskin
Vice Chair
Chair, Capital Projects Committee

Warren H. Victor
Secretary
Chair, Audit Committee
Chair, Public Participation Committee

Louis C. Mai
Treasurer
Chair, Finance Committee
Chair, Personnel Committee

Donald L. Correll
Chair, Insurance Committee

Dena K. Scibilia

Staff

Thomas G. Baxter, P.E.
Executive Director

Helene P. Chudzik, Esq.
Deputy Attorney General

2000 Monthly Meetings

The 2000 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 3, 2000

February 7, 2000

March 6, 2000

April 3, 2000

May 1, 2000

June 5, 2000 (Canal Office)

July 10, 2000 (Canal Office)

August 7, 2000 (Canal Office)

September 11, 2000

October 2, 2000 (Manasquan Office)

November 6, 2000

December 4, 2000

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.

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 over 1,200,000 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 over 125,000 people in the Monmouth County area, on July 1, 1990. Under agreement with the Monmouth County Improvement Authority, the Authority also operates and maintains a 4 million gallon per day water treatment plant and distribution system for five municipalities in Monmouth County.

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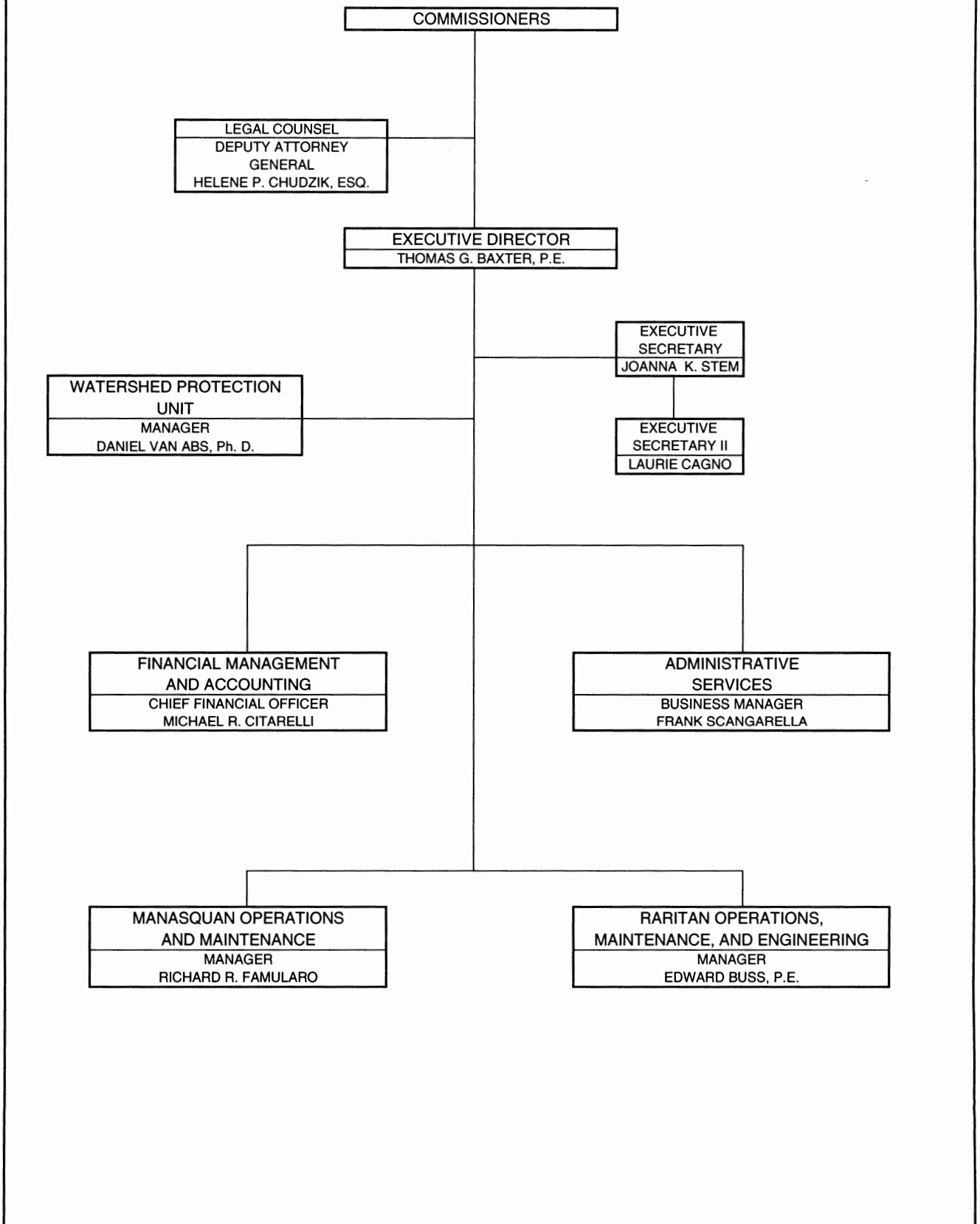
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Letter to Governor and Legislature



NEW JERSEY WATER SUPPLY AUTHORITY

Post Office Box 5196 • Clinton, NJ 08809 • (908) 638-6121

FAX • (908) 638-5241

February 2000

To the Honorable Christine Todd Whitman, Governor and Members of the New Jersey Legislature

The rainfall deficit during the first six months of the year turned into a drought during the summer months. Releases from the Spruce Run, Round Valley and Manasquan Reservoirs were necessary to meet minimum flow and water demands. Demands on the Manasquan System dropped storage to its lowest level since the reservoir was completed in 1989. Demands on the Spruce Run and Round Valley Reservoirs dropped combined storage levels to the lowest levels they have been since November 1983. Major pumping programs will be needed to replenish storage at both the Manasquan and Round Valley Reservoirs. The drought of 1999 was followed on September 15 and 16 by Hurricane Floyd, while high flow records were set at many gauging stations throughout the State, there was no significant damage to any Authority facilities.

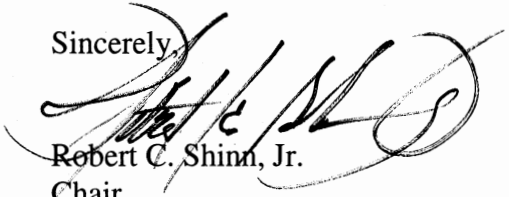
The Authority's capital improvement program continued successfully at both the Raritan and Manasquan System.

The Authority has projected a level water rate schedule for the Raritan Basin System and a small increase for the Manasquan Water Supply System for Fiscal Year 2001.

The Authority tested, and upgraded its computer hardware and software to bring the Authority into compliance for year 2000. The Authority expects no interruption in water deliveries to our customers during year 2000.

The Authority's annual financial reports have been awarded the prestigious "Certificate of Achievement for Excellence in Financial Reporting" by the Government Finance Officers Association of the United States and Canada for each of the past seven years. Our 1999 financial report shows the Authority's continued sound financial condition.

Sincerely,



Robert C. Shinn, Jr.

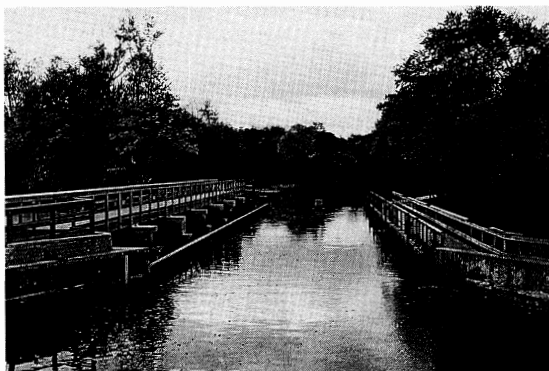
Chair

Raritan Basin System

Facilities

Delaware and Raritan Canal

The Delaware and Raritan Canal (Canal) was originally constructed in 1834 and operated as a barge canal until 1932. The Canal was taken over by the State of New Jersey from the Pennsylvania Railroad Company in 1934. During the 1950's the Canal was rehabilitated to serve as a public water supply transmission system. In 1974 the Canal was designated as a State Park and was also placed on the State and Federal Registry of Historic Sites.



The Princeton aqueduct carries water from the Delaware and Raritan Canal across the Millstone River near Carneie Lake.

Originally, the navigable Delaware and Raritan Canal consisted of 43 miles of main Canal between the Delaware River at Bordentown and the Raritan River at New Brunswick and 22 miles of feeder Canal between Bulls Island in Hunterdon County and the City of Trenton. The present Canal Water Supply Transmission Facility is 60 miles long with its Delaware River intake at Bulls Island in Hunterdon County and its outlet at the Raritan River in the City of New Brunswick. The Canal right-of-way varies in width between 60 feet and 200 feet

and includes a waterway varying between 40 and 80 feet wide. Flow from the Delaware River to the Raritan River is entirely by gravity and is regulated by control gates installed in the original lock structures.

In addition to the 100 million gallons per day (mgd) non drought diversion entitlement from the Delaware River, natural streams and storm drains are directly tributary to the Canal. Four Authority water supply operators, with 24-hour responsibility to take emergency action on their own initiative, constantly monitor water levels and weather conditions and adjust operating gates and open flood gates to protect the Canal during times of heavy rainfall.

Spruce Run and Round Valley Reservoirs

The Spruce Run and Round Valley Reservoirs located in Hunterdon County were constructed by the State of New Jersey as initial steps in the long-range water conservation and development program authorized by the 1958 Water Supply Law and its companion Water Bond Act.

The 55 billion gallon Round Valley Reservoir, which became operational in 1965, was formed by construction of two dams and a dike, closing off gaps in a natural horseshoe shaped valley. The earthen dams and dike, faced with dumped stone riprap and sod, are of extra width and have an offset clay core in order to permit an increase in height for future additional storage capacity. With no appreciable local drainage area (five square miles), Round Valley Reservoir must be filled by pumping water from the South branch of the Raritan

River. Minimum flows must be maintained in natural streams below the Reservoir. To accomplish this, a total of one million gallons is released daily from both the North and South Dams. A 3.6 mile, nine foot diameter release pipeline from the North Dam to the South Branch of the Rockaway Creek, near Whitehouse Station in Readington Township discharges water to the South Branch of the Rockaway Creek under a low pressure mode of operation.

The 350 mgd South Branch Pumping Station at Hamden, which pumps surplus water from the South Branch of the Raritan



The South Branch Pump Station at Hamden, Hunterdon County maintains storage in Round Valley Reservoir by pumping surplus water from the South Branch of the Raritan River.

River, maintains the storage in the Round Valley Reservoir via a 3.2 mile, nine foot diameter force main, which enters the Reservoir at the South Dam. In 1990, modifications were completed on this force main to also permit this pipeline to release up to 120 mgd from the Round Valley Reservoir into the South Branch of the Raritan River.

The 11 billion gallon on-stream Spruce Run Reservoir, which was placed into operation in 1963, includes a 6,000 foot long earthen dam and two earthen dikes. A concrete spillway having a safe discharge

capacity of 15.5 billion gallons per day provides protection for the earthen dams during periods of heavy rainfall.

The Reservoirs, by augmenting stream flow during periods of low natural runoff, make available 160 mgd for sale at Bound Brook based on the 1960's drought. Additionally, a minimum statutory flow of 90 mgd must be maintained in the Raritan River at the Bound Brook stream gage. For these purposes, water is released from the Spruce Run Reservoir to the South Branch of the Raritan River, from the Round Valley Reservoir to the South Branch of the Rockaway Creek and from the Round Valley Reservoir through the alternate release facilities to the South Branch of the Raritan River, for routing to the Raritan River. Operation by Authority staff involves maintenance of continuous hydrographs on the basis of data transmitted from six stream gaging stations. Predictions of natural flow at these control points, including anticipated storm runoff, must be made sufficiently in advance to allow for time of travel so that the releases meet both minimum stream flow regulations and customer demands.

The 1958 Water Supply Law allows recreational use of the water supply facilities. The cost of operating and administering the recreational facilities is provided by the New Jersey Department of Environmental Protection's (NJDEP's) Division of Parks and Forestry and Division of Fish, Game and Wildlife.

Raritan River to Delaware and Raritan Canal Pumping Station

This 60 million gallon per day pumping station, located where the Raritan and Millstone Rivers meet adjacent to the Canal

near South Bound Brook, was constructed after the drought of 1980-1981 to permit the transfer of water from the Raritan River, as sustained by releases from the Raritan Basin Reservoirs, to the adjacent Delaware and Raritan Canal. This facility is a major component of the integrated management program for the water resources of the Raritan Basin and the water diverted from the Delaware River. Water in the Raritan River can be transferred to the Delaware and Raritan Canal as needed or in the event of an upstream emergency or construction affecting the normal delivery of the Canal water supply. Based upon the Canal carrying capacity of 100 mgd, it is also possible to divert excess Canal flows, up to 30 mgd, through gates into the Raritan River for water supply or stream flow maintenance resulting in the maximum conservation of stored waters in the Spruce Run and Round Valley Reservoirs. Full development of the maximum possible yields, resulting from the integrated management of the water from the two basins, at least cost, is vital to meeting the water supply needs of the central New Jersey communities dependent upon these two sources of supply.



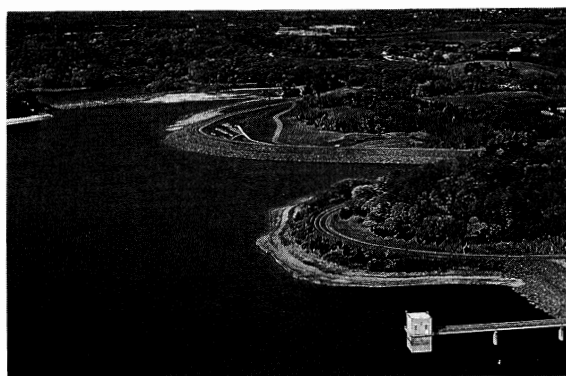
The Raritan Canal Pump Station located at the juncture of the Raritan and Millstone Rivers permits transfer of water to the Canal from the river.

Operations, Maintenance and Engineering

Spruce Run/Round Valley Reservoirs Complex

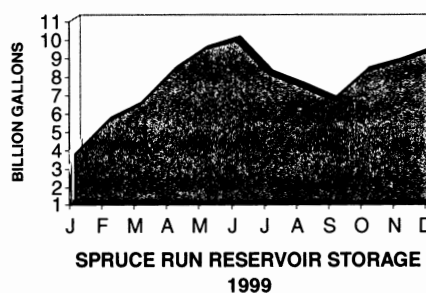
Reservoir Operations

The precipitation deficit that began in September 1998 turned into a drought event in the summer of 1999. The total precipitation for the twelve-month period between September 1998 and August 1999 was 29.7 inches, 66 percent of the average annual precipitation at the Spruce Run rain gauge. Between April and July of 1999, precipitation was only 31 percent of the average precipitation for this time of the year. In response to the dry conditions being experienced throughout the state, Governor Whitman declared a drought emergency on August 5, 1999. The drought emergency imposed Phase I – Mandatory Restrictions throughout the state. The restrictions prohibited the outside use of water except for certain exemptions. The minimum passing flow requirement at the Bound Brook Gauge on the Raritan River was reduced from 90 million gallons per day to 80 million gallons per day on August 20, 1999.



Releases from Round Valley Reservoir in Hunterdon County reduced the Reservoir level to 42.3 bg or 77 percent of capacity at its low point.

Releases were made from both Spruce Run and Round Valley Reservoirs during the dry period. Approximately 17 billion gallons (bg) were released from the reservoirs to satisfy minimum flow requirements and meet unprecedented water demands. At the low point, storage in Round Valley Reservoir was 42.3 bg, 77 percent of capacity. Storage in Spruce Run Reservoir dropped to 6.0 bg, 55 percent of capacity.



The drought of 1999 was followed by Hurricane Floyd on September 15 and 16. Hurricane Floyd produced torrential downpours and flooding across New Jersey. Hardest hit was the Raritan River Basin where seven to eleven inches of rain fell in less than 24 hours. The main stem of the Raritan River at Bound Brook set a new peak record on September 17, 1999 at 42.13 feet above mean sea level. Low flow elevation is 17 feet above mean sea level. According to the USGS, this is the highest stage since at least 1800. As a point of reference, this stage at Bound Brook was 4.7 feet higher than the stage following Tropical Storm Doria in 1971, the previous flood record. Damage to reservoir facilities was limited to fallen trees and debris

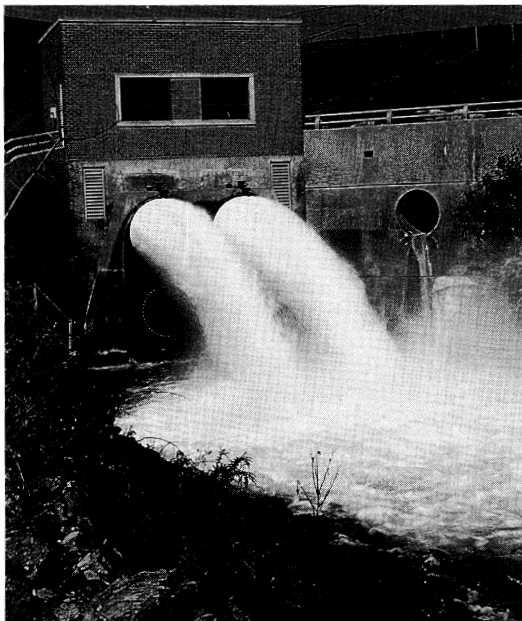
accumulation on the faces of the dams. Damage to Canal facilities is discussed later in this report.

On December 31, 1999, storage in Spruce Run Reservoir was 9.9 bg, 90 percent of capacity. Storage in Round Valley on the same date was 43 bg, 78 percent of capacity. It is expected that a major pumping program will be implemented in the spring of 2000 to increase the storage in Round Valley Reservoir.

Reservoir Maintenance

Routine maintenance and groundskeeping duties were carried out as necessary. This included mowing and maintaining the dam slopes and more than 6 miles of pipeline right-of-ways.

The staff of the South Branch Pumping Station performed preventive maintenance required at the pumping station, the surge tank, the vaults and towers.



The Spruce Run Vault in Hunterdon County is one of many structures maintained by the staff of the South Branch Pumping Station.

Dam Inspections

The 1999 annual dam inspection was conducted by the Authority Engineering Staff on July 6 and 7, 1999 in accordance with State Dam Safety Regulations. The dams were found to be well maintained. All four embankments were characterized as “safe” and only minor routine repairs were recommended.

The Authority also continued its program of quarterly inspections of the dams, dikes, and appurtenances in accordance with the Authority’s Internal Management Program.

Delaware and Raritan Canal Operations

Operations of the Delaware and Raritan Canal were without incident during the year. The annual average Canal diversion at the Port Mercer Gauging Station measured 84 million gallons per day (mgd). An average of 24 mgd was diverted to the Millstone River from the Canal at the Ten Mile Waste Gates during the year. Discharges from the Canal to the Millstone River reduce the demand on the Spruce Run and Round Valley Reservoirs.

Hurricane Floyd

As noted, Hurricane Floyd drenched central New Jersey with up to 14 inches of rain between September 15 and 16, 1999. The storm caused record flows in the Shipetaukin Creek, Stony Brook, Millstone River and Raritan River, which in turn overtopped many sections of the towpath resulting in scour and erosion damage. The most significant damage to the Authority’s facilities caused by the hurricane was the washout of a 100-foot section of the flood



Hurricane Floyd caused a washout of a 100' section of the flood guard bank near Port Mercer in Lawrence Township, Mercer County.

guard bank near Port Mercer in Lawrence Township, Mercer County. The washout occurred as the Shipetaukin Creek overtopped the flood guard bank. The washout was repaired by Authority maintenance forces.

In the western section of the Canal, the Wickecheoke Creek in Stockton Borough, Hunterdon County, deposited major amounts of sediment and stone into the Canal and the discharge side of the spillway.

Fortunately, there was no major structural damage to the Canal embankment in the area of the State that was hardest hit by the hurricane. In Somerset and Middlesex Counties, the Canal towpath was scoured throughout its length but no other damage was noted. Major scouring of the towpath occurred in the vicinity of the Five Mile Lock in Franklin Township, Somerset County.

Oil Spill

On May 4, 1999, an estimated 1,000 to 3,000 gallon oil spill occurred in New Brunswick in the vicinity of the water

intakes for Middlesex Water Company and the City of New Brunswick. A heating fuel oil supply line in the Colony Apartments ruptured causing fuel to run into the floor drains which emptied into the Canal. Delaware and Raritan Canal personnel responded with representatives of local, State and Federal agencies. Absorbent booms and padding were placed in the Canal and Raritan River opposite the Route 18 spillway. Clean-up operations commenced immediately, while water customers curtailed withdrawals from the Canal. Due to the Authority's placement of a permanent trash boom upstream of the intakes, no contamination entered the Middlesex or New Brunswick distribution systems. Operations returned to normal within 48 hours.

Towpath Restoration

The Authority staff embarked on a program to restore the towpath on the reach between Alexander Road and the Princeton Country Club in Princeton. This area had been accessible only to small four wheel drive vehicles for many years. Widening and grading the area will allow entry to larger support vehicles thus increasing flow control and maintenance activity.

SUMMARY OF WATER USE CONTRACTS
Raritan Basin System
(Million Gallons Per Day - mgd)

<u>User</u>	<u>Type of Contract</u>	<u>Supply</u>
United Water Lambertville, Inc.	U	0.200 (1)
Mercer County Park Commission	U&SB	0.100 (1)
Trenton Country Club	U&SB	0.250 (1)
<hr/>		
Total Delaware Basin Users		<hr/> 0.550 mgd <hr/>
Mercer County Park Commission	U&SB	0.135
Princeton University (Forrestal)	U	0.500
North Brunswick Township	U	8.000
Selody Sod Farms, Inc.	U&SB	0.100
Elizabethtown Water Company	U	102.000
East Brunswick Township	U	8.000 (2)
City of New Brunswick	U	10.500
Middlesex Water Company	U	20.000
Flemington Film Products	SU	0.012 (3)
<hr/>		
Total Raritan Basin Users		<hr/> 149.247 mgd <hr/>
System Total:		<hr/> 149.797 mgd <hr/>

(1) These users withdraw their supply from and return water to the Delaware River Basin and are excluded from payment of the debt service rate component for the 1969 Water Conservation Bonds.

(2) Water treated and supplied through Middlesex Water Company.

(3) Non-depletive use.

SUMMARY OF FIRE STANDBY AND SPECIAL USER CONTRACTS

<u>User</u>	<u>Type of Contract</u>	<u>Withdrawal Capacity (gpm)</u>	<u>Source</u>
Union Carbide Corporation	FSB	4,500	D & R Canal
Hillsborough Golf Association	SU	375	Millstone River

U = Uninterruptible Service
SB = Standby Service
FSB = Fire Standby Use
SU = Special Use

Capital Improvement Program

The Authority's current Capital Improvement Program entails the investment of approximately \$1,500,000 per year. In evaluating the options for financing this program, the Authority looked at (1) the continuation of the practice of incurring long-term debt through the issuance of Revenue Bonds and (2) the feasibility of current financing through the assessment of annual charges as part of the water use rate structure. It was determined that financing of such a small annual Capital Improvement Program based upon the issuance of long-term debt would not be fiscally prudent.

The Authority's present financing for reinvestment in plant and capital is consistent with the booked depreciation of plant and equipment for the Raritan System facilities (without the depreciation of the dams) which amounts to about \$1,900,000 per year.

The following is a description of projects undertaken in 1999 that were funded from the Capital Improvement Program.

Rehabilitation of the Washington Crossing Waste Gate and Spillway

The Washington Crossing Waste Gate and Spillway is located on the right bank of the Delaware and Raritan Canal at Station 720+15 in Hopewell Township, Mercer County. This location is approximately 3 miles north of the I-95 bridge across the Delaware River. The concrete spillway structure was built circa 1915. The waste gates and their supporting concrete structure were installed in 1956. The two waste gates are inoperable and need to be replaced. The concrete structure is deteriorated to varying degrees and sections need to be replaced.

Rehabilitation of the spillway is being done under a contract not to exceed \$493,825. Work is expected to be completed by the end of January.



The rehabilitation of the Washington Crossing waste gate and spillway in Hopewell Township, Mercer County.

Rehabilitation of the Workhouse Spillway

The Workhouse Spillway is located across the Canal from the Mercer County Workhouse at Station 503+06 in Hopewell Township, Mercer County. It is a concrete structure constructed in 1913. The overflow is carried under the Canal towpath in three pipes and discharges into a ditch that feeds into the Delaware River. The downstream apron and retaining wall appear to be stone capped with concrete. The retaining wall is undermined and spalled. The apron is severely deteriorated and needs to be replaced. The concrete spillway in the Canal is spalled and cracked in several places. Major rehabilitation of the spillway is necessary.

The Authority is in the process of contracting an engineering consultant to

inspect the structure, develop recommendations for its rehabilitation, and design the most suitable rehabilitation measures. A Cultural Resource Consultant was retained to assist in the rehabilitation process.

Rehabilitation of the Griggstown Spillway and Culvert

The Griggstown Spillway is located in the Griggstown Lock to Ten Mile Lock section of the Canal in Franklin Township, Somerset County approximately one mile down-canal of the Griggstown Causeway. The Canal towpath is depressed for approximately 210 feet forming an uncontrolled spillway. The downstream wall of the spillway is deteriorated. Stones are dislodged from the Canal edge and crest of the spillway. During periods of heavy flow over the spillway, concentrated flows dislodge additional stone. Major rehabilitation of the spillway is necessary.

A culvert is located near the downstream end of the spillway. The culvert was dewatered and cleaned in the summer of 1999. Only minor repairs to the barrel of the culvert and the outlet headwall are necessary.

Plans are being developed to rehabilitate both the culvert and the spillway. Rehabilitation of the spillway and culvert will be in the spring and summer of 2000.

Rehabilitation of the Canal Embankment at the Five Mile Lock

Route I-287 crosses over the Canal at two locations, Station 2813+00 and Station 2675+00 in Franklin Township, Somerset County. Road runoff drops over 20 feet from road scuppers and erodes the crest of

the embankment during major storm events such as Hurricane Floyd on September 16, 1999. Previously, the runoff from the road eroded the Canal embankment at these crossings causing the embankment to breach at both locations. Emergency repairs made at that time have proven effective in preventing additional breaches. The emergency repairs are not effective in preventing surficial erosion. A change in the scupper design will reduce the damage caused by road runoff but will not alleviate it completely since this area is subject to overtopping by the Raritan River.

Also, the two spillways upstream and downstream of the Five Mile Lock are in need of rehabilitation. They also sustain severe erosion during major storm events.

The Authority is in the process of retaining an engineering and a cultural resource consultant to inspect the structures and develop rehabilitation plans.

Pipeline Evaluation and Rehabilitation

During litigation regarding construction of the Round Valley Release Pipeline (RVRP), the Authority's expert had questions about assumptions made in the conversion of the RVRP to a gravity release pipeline. These questions raised doubts about the reliability of the pipeline. The Authority has retained Raytheon Infrastructure to address these questions.

The analysis by Raytheon identified that, under certain worst case scenarios, six sections of the release pipeline would be overstressed. The total length of these six sections is 3,145 feet. Raytheon is developing alternatives to reinforce the pipe sections.

Authority staff inspected the Force Main in

the fall of 1998. The inspection included a hammer sounding of every fifth section of the pipe. Several pipe sections exhibited “peculiar” sounds that warranted further investigation.

The Authority retained Raytheon and the Washington Suburban Sanitary Commission (WSSC), a firm that developed an acoustical technology for identifying prestressed concrete cylinder pipe (pccp) sections that are in distress, to perform non-destructive testing of the pipeline.

They found that the majority of the pipes in the Force Main appear to be in excellent condition. However, there are several sections of pccp that have lost prestress or that show indications of delamination. In pccp, a significant structural weakness due to these conditions would show up as a crack on the interior of the pipe at the spring line. No such crack is evident in any of the pipe sections in question. Raytheon and WSSC conclude that the Force Main is not in imminent danger of failure. They recommend that the Authority excavate, inspect and repair or replace as necessary up to 20 sections of pipe. Currently it is planned that the excavations and repair/replacement will be made after the spring 2000 pumping period.

NEW JERSEY WATER SUPPLY AUTHORITY
CAPITAL IMPROVEMENT PROGRAM

Project	Estimated Project Cost	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003 & beyond
Island Farm Weir	350,000	111,576	238,424			
Rehab of Moores Creek Culvert (D&R)	300,000	285	299,715			
Rehab of Mettlars Brook Culvert (D&R)	250,000		250,000			
Litigation Regarding RVRP	1,050,000	984,034	65,966			
Pipeline Evaluation	2,200,000		700,000	1,500,000		
Admin Bldg Fuel Facility Remediation	250,000	81,538	52,302	75,000	41,160	
Repairs @ SBPS	350,000	238,117	111,883			
Admin Bldg Improvements	275,000					275,000
Water Quality Characterization (D&R)	20,000	147,850	52,150			
Rehab Four Mile Spillway	626,452	625,227	1,225			
Repaving SR Access Road	90,052	200	89,852			
Rehab Leak RV South Tower	45,000		45,000			
Reconstruction RV South Vault	50,000			50,000		
Workhouse Spillway Rehab (D&R)	900,000		75,531	100,000	724,469	
Maintenance Dredging	125,000	12,189	112,811			
Rehab of Lock Gates (D&R)	380,000	49,775	60,000	240,000	30,225	
Rehab of Lockatong Spillway (D&R)	580,200	579,125	1,075			
Washington Crossing Waste Gate Rehab	650,000	66,430	583,570			
Instrumentation of D&R Canal	400,000	23,628	376,372			
Rehab of SR Spillway	75,000		75,000			
Rehab of Culvert @ 2370+28 (D&R)	108,156	105,961	2,195			
Rehab of Culvert @ 324+30 (D&R)	350,000					350,000
Rehab of Culvert @ 2021+89 (D&R)	331,000	10,395			46,000	274,605
Rehab of Culvert @ 2464+88 (D&R)	401,964	400,852	1,113			
Rehab of Culvert @ 2249+79 (D&R)	165,000				165,000	
Rehab of Swan Creek Culvert (D&R)	375,000			75,000	300,000	
Rehab of Simonson Brook Culvert (D&R)	180,000	570	79,430		100,000	
Route 1 Conduit Automated Rakes	85,000		85,000			
Evaluation of Ten Mile Pumping Station	50,000					50,000
Evaluation of South Branch Pumping Station	200,000				200,000	
Embankment Improvements - Canal	235,000		20,000	80,000	80,000	55,000
Rehab Embankment at Five Mile	1,300,000		75,000	1,025,000	200,000	
Rehab of Griggstown Spillway & Culvert	900,000	13,263	236,737	650,000		
Rehab of Griggstown Spillway (Upper)	700,000			70,000	300,000	330,000
Rehab of 5 and 10 Mile Waste Gates	700,000				50,000	650,000
Rehab of Port Mercer Dike	2,500,000					2,500,000
Rehab of Canal Embankment @ Sta 122+00	850,000					850,000
Culvert Cleaning & Inspection	200,000				200,000	
Rock Stabilization near RVND	350,000	218	349,782			
Rehab Culverts at Prallsville Lock	500,000		30,000		470,000	
Dredging between Griggstown & Ten Mile	0					
TOTAL	\$19,627,825	\$3,451,233	\$4,070,133	\$3,865,000	\$2,906,854	\$5,334,605

The estimated project costs listed includes engineering, cultural, construction and miscellaneous expenses.

FOOTNOTES:

D&R - Delaware & Raritan Canal
RV - Round Valley Reservoir
RVRP - Round Valley Release Pipeline

SR - Spruce Run Reservoir
SBPS - South Branch Pumping Station
RVND - Round Valley North Dam

Manasquan Water Supply System

Facilities

The Manasquan Water Supply System consists of a 770-acre reservoir located on Timber Swamp Brook, a tributary of the Manasquan River, in Howell Township, Monmouth County, that can store over four billion gallons of water when full. Water to fill the reservoir is drawn during periods of high flows in the Manasquan River at an intake pumping facility located in Wall Township. To create the reservoir, approximately 800,000 cubic yards of earthen materials excavated from within the reservoir site were used to construct the main dam, dike, Georgia Tavern Road embankment, and the wetland dikes at the reservoir. A critical portion of the main dam



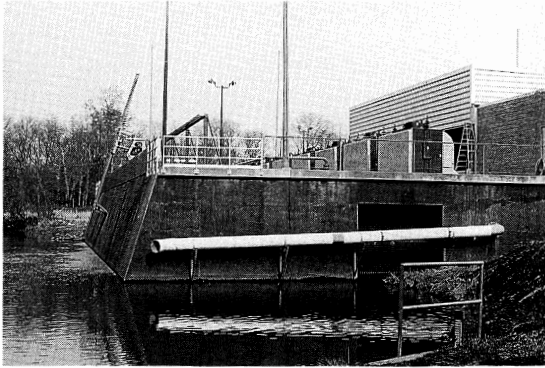
The Main Dam of the Manasquan Reservoir creates a 770 acre Reservoir in the Timber Swamp Brook in Howell Township, Monmouth County.

and dike construction involved the installation of a soil-bentonite clay cut-off wall to control water seepage through the dam embankment. Groundwater levels around the reservoir are controlled by a perimeter drain system constructed along the

north and south shores of the reservoir varying in depth up to 15 feet.

As part of the reservoir construction, the Authority was responsible for the creation of six emergent wetland areas at several locations along the reservoir periphery, at the intake site, and at three other off-site locations within Monmouth County. These sites were excavated and/or filled, depending on the topography, to create shallow ponds with a water depth of one to three feet. A five-year wetland monitoring program was required under our U. S. Army Corps of Engineers permit for the Manasquan Reservoir System mitigation plan. The last year the monitoring program concluded with a meeting and site visit by U.S. Army Corp of Engineers representatives. The wetland monitoring program assessed the survival rate of planted species, growth of indigenous plants, and use of the areas as wildlife habitat to determine the success of the manmade freshwater wetland areas in replacing natural areas lost in the construction process.

The Intake Facilities consist of an Intake Pump Station on the Manasquan River; a Flow Meter/Valve Chamber, the point of delivery to the majority of the water customers; a Reservoir Pump Station housing five pumping units; and the Maintenance/Administrative Office area for the system. The Intake Facility is designed with a peak pumping capacity of 150 million gallons of water per day while maintaining no less than an eight (8) million gallon per day minimum downstream passing flow in the Manasquan River. A stream gaging station on the river monitors flows



The Intake Pump Station located on the Manasquan River in Wall Township, Monmouth County has a peak pumping capacity of 150 million gallons of water per day.

downstream of the intake pumping station.

The river water is pumped from the intake structure and pump station to a settling basin where the sediments settle out. The water from the settling basin can be pumped through a 5.25 mile long, 66-inch diameter pipeline to storage in the Manasquan Reservoir, or it may be pumped via the New Jersey-American Water Company's facilities to storage at their Glendola Reservoir or allowed to flow by gravity from the settling basin to the Monmouth County Improvement Authority Treatment Plant which is also located at the intake site.

The 66-inch diameter prestressed concrete cylinder pipeline to the Manasquan Reservoir is buried a minimum of five feet along a route which minimized a disturbance to archaeological sites and private property. At the reservoir location where the 66-inch pipeline is enclosed in a 120-inch diameter prestressed concrete cylinder pipe, the pipe changes to a structural steel pipe as it passes through the dam embankment to the Inlet/Outlet Tower. This tower rises 84 feet above the reservoir floor and performs the functions of either releasing reservoir water or accepting pumped water from the

Reservoir Pump Station located at the Intake Facilities.

The water supply system, which commenced operation on July 1, 1990, provides the region with a safe, dependable and renewable water supply, which reduces the region's dependence on depleted groundwater supplies. This system can supply a safe yield of 30 million gallons of water per day (mgd) even during a recurrence of the worst drought to strike the region. Of the Manasquan System's safe yield of 30 mgd, raw water contracts currently total 16.097 mgd.

The New Jersey-American Water Company receives 11.532 mgd for treatment at its Jumping Brook treatment facility. This water is delivered to New Jersey-American customers in northeastern Monmouth County and to other water supply systems along the Raritan Bayshore region.

Raw water in the amount of 3.535 mgd is contracted for delivery to the treatment facility owned by the Monmouth County Improvement Authority (MCIA) located at the Manasquan Intake Site. The MCIA has contracts to deliver treated water to the Boroughs of Brielle, Sea Girt, Spring Lake, Spring Lake Heights, and Wall Township. The New Jersey Water Supply Authority, under a separate contract with the MCIA, designed, constructed and operates this state-of-the-art treatment facility.

New Jersey-American Water Company now operates the treatment facility in Howell Township, which withdraws 1.03 mgd of water directly from the 66-inch diameter reservoir pipeline. This facility treats and delivers water to customers within the water systems formerly operated by Howell and Adelpia Water Company.

The remaining 13.903 mgd of the safe yield of the Manasquan Water Supply

System is available for use in meeting the future water needs of Monmouth and northern Ocean Counties.

The reservoir also provides environmental and recreational benefits to the area. Under agreement with the Authority, the Monmouth County Park System is managing the recreational use of the reservoir. County park rangers and staff provide maintenance of the areas outside the restricted access zones and security patrols of the entire site. The County encourages and sponsors programs for use of the five-mile long perimeter trail walk. Operation of the boat launch ramps by the County provides access for recreational boaters and fishermen.

The County's Visitor's Center was completed in June 1994, and its operation has maximized the recreational uses available at the reservoir site. The attractive building with its various amenities promotes greater utilization of the reservoir area by the public. The Visitor's Center houses a photo display donated by the Authority,

depicting the actual operational schematic of the Manasquan Reservoir Water Supply System.

The County is currently constructing the Manasquan Reservoir Environmental Center that will expand the environmental education opportunities at the reservoir site. The Environmental Center is scheduled for completion in the Fall of 2000.

The reservoir also provides an excellent opportunity for recreational fishing. The gravel spawning beds and log shelters in the northwest corner of the reservoir have proven attractive to fish. Fishing has been successful from bank areas as well as from watercraft. The NJDEP's Division of Fish, Game and Wildlife has stocked the reservoir with fish of various species since the spring of 1990. Indigenous species of fish are also making a strong showing in numbers and size. These fish apparently migrated to the reservoir from the small streams and ponds which lie in the compact watershed or were incorporated into the impoundment.

Operations and Maintenance

Even though the year started out with a very wet January, the next six months were almost all below normal in rainfall. As summer approached, the rainfall deficient continued to mount only to be made worse by the high temperatures experienced in the month of July. By the month of August, the Manasquan Reservoir had dropped to the lowest storage volume since filling the impoundment in 1990. Manasquan Reservoir storage capacity was used in part to meet contractual commitments, but also to supplement additional water purchases to New Jersey-American Water Company. The water company was experiencing record water demands for their Monmouth County system until the Governor declared the Drought Emergency in early August. The Manasquan Reservoir operated near its design capacity from early June through mid August causing reservoir levels to plummet. Some reservoir storage volume was recovered when the remnants of Hurricane Floyd dropped its moisture on the watershed enabling reservoir pumping. However, reservoir levels remained below the historic average throughout the rest of the calendar year.

After the hurricane and a return to near normal rainfall, river flow sustained operations into Fall requiring only very limited use of reservoir water for blending to meet system requirements. This mode of operations enable the system to maximize use of the available river water while stabilizing the reservoir level. The reservoir level was still drawn down approximately five feet into the month of October. Pumping to replenish the reservoir was accomplished whenever the river yielded excess flow until the drought emergency was lifted on September 27, 1999.

The Manasquan staff and the Authority's Engineering personnel monitored the dam and appurtenances throughout the year both visually and by means of the data continuously recorded by instrumentation buried within the dam and dike structures. The performance of the dam and dike has been confirmed to be well within design predictions.

An annual dam inspection was conducted by the Manasquan and Authority's Engineering staff along with the NJDEP-Dam Safety Section and again resulted in a safe rating. Any deficiencies noted in the report were of a minor nature.

In 1993, the State of New Jersey granted a waiver of a requirement to install a siren warning system downstream of the Manasquan Dam. Following receipt of this waiver the Authority adopted an Internal Management Plan (IMP) to augment the existing Manasquan Dam-Emergency Action Plan (EAP) and Dam Safety and Maintenance Manual. As part of this IMP, the Authority's Engineering and Safety personnel assist in various activities required by all plans in order to assure the facilities are safe and operating within design parameters. These activities include quarterly inspections of the dam, dike, and appurtenant structures, review of the monthly dam instrumentation and observation well data, and semi-annual drills of the EAP. The EAP is currently being updated to include the latest changes in the communications section of the plan.

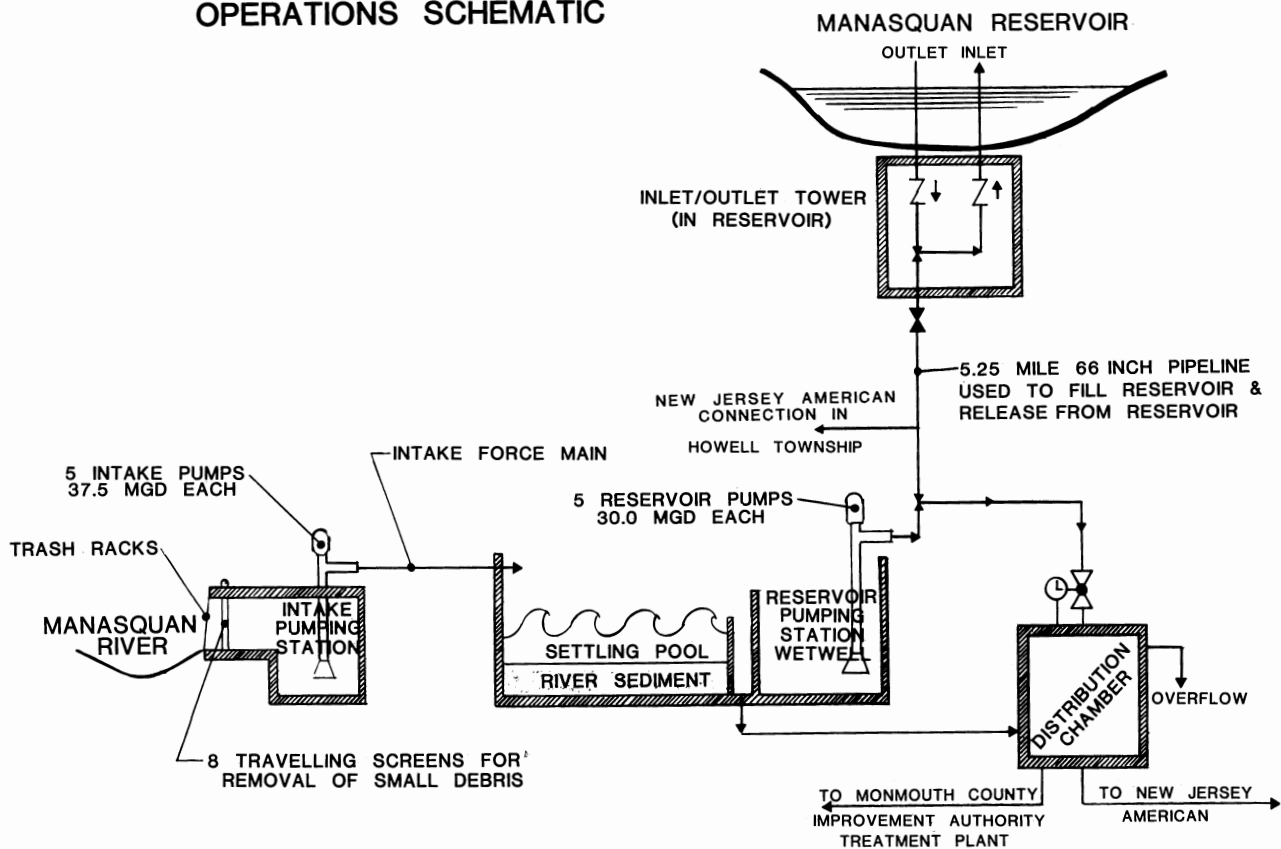
Monitoring of the water quality in the reservoir continued throughout the year in order to obtain information on seasonal variations of reservoir water. During the warmer months, the data collected by the Manasquan staff was used by the Authority's

algae control contractor to schedule applications of copper sulfate to the reservoir. Timely information on the reservoir water quality permits the contractor to schedule the applications to provide maximum benefit and the best margin of safety for higher aquatic life forms. The growth of algae, a natural occurrence in surface water impoundments, can cause water treatment difficulties resulting in unpleasant taste and odor if permitted to go unchecked.

The maintenance of the grassed areas on the dam and dike, at the intake site, wetlands, and along the pipeline easements is managed by the Buildings and Grounds Maintenance Unit. The unit also handles the maintenance of drainage structures at the reservoir and the wetland areas.

Maintenance of mechanical devices is the responsibility of the Facilities Maintenance Unit. The preventative maintenance function is directed by a computer based maintenance program. All preventative maintenance activities have been identified and fed into the computer record. The program maintains a schedule of events and issues work orders which detail the tasks to be performed and the work force, supplies, parts and special tools required to perform the tasks. New tasks which arise and corrective actions taken by the unit are logged into the program to create a maintenance history of all individual devices. This computer program is also integrated into the payroll function of the unit. The unit's time is recorded by work order number which allows the analysis of

MANASQUAN RESERVOIR SYSTEM OPERATIONS SCHEMATIC



the unit's time allocation between the various budget expense centers.

The Facilities Maintenance Unit is responsible for the coordination of the activities of numerous vendor and service organizations. The unit participates with these organizations in tasks such as the maintenance and testing of the 2,300 volt variable frequency drives on the intake and reservoir pumps, the removal of residuals from the intake pump station and the high voltage electrical testing and maintenance program.

Capital Improvement Program

A Capital Improvement Program funded by the Renewal and Replacement Reserve was first recommended in September 1996 when

excess debt service funding became available for this purpose. The program consists of a rehabilitation reserve for extraordinary operations and maintenance costs in case of a catastrophic failure of one of the main system components shown in the plan. The other projects represent improvements projects identified to upgrade or enhance the reservoir system facilities.

The annual funding is scheduled at \$120,000 for reservoir system improvements. Progress is being made on each specific project with the schedule currently in place for this program. Fiscal Year 1999 saw the completion of several projects within the program; namely, toe drain weir channel rehabilitation, fuel island modification, and dam instrumentation system upgrade to Year 2000 compliance.



The Toe Drain Weir Channel Rehabilitation is one of several capital improvement projects completed at the Manasquan Reservoir Complex during 1999.

SUMMARY OF WATER USE CONTRACTS
Manasquan Water Supply System
(Million Gallons Per Day - mgd)

<u>User</u>	<u>Type of Contract</u>	<u>Supply</u>	
Wall Township	U	2.300	(1)
Borough of Avon	U	0.142	(2)
Shorelands Water Company	U	1.900	(2)
New Jersey-American Water Company	U	8.065	
Borough of Red Bank	U	0.778	(2)
Borough of Sea Girt	U	0.075	(1)
Borough of Spring Lake	U	0.310	(1)
Borough of Spring Lake Heights	U	0.450	(1)
Borough of Belmar	U	0.650	(2)
Borough of Brielle	U	0.400	(1)
Borough of Keyport	U	0.458	(3)
Borough of Matawan	U	0.469	(2)
Borough of South Belmar	U	0.100	(2)
<hr/> System Total:		<hr/> 16.097 mgd	

(1) Water treated and distributed through Monmouth County Improvement Authority facilities.

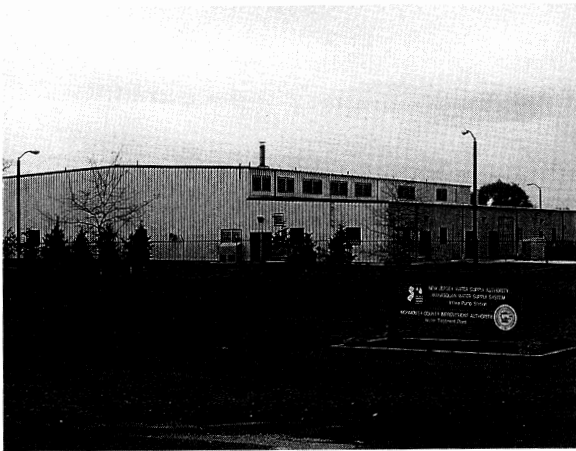
(2) Water supplied through New Jersey-American Water Company, Eastern Division.

(3) Water supplied through Shorelands Water Company.

U = Uninterruptible Service

Water Treatment Plant and Transmission System

As part of the overall distribution of water from the Manasquan project, the Monmouth County Improvement Authority entered into a contract with the Authority to construct and operate a four (4) million gallons per day water treatment plant and transmission system for the benefit of the communities of Wall Township, Brielle, Sea Girt, Spring Lake, and Spring Lake Heights. Throughout the first nine years of operation, the plant has produced an average of just over three (3) million gallons of water per day.



The Water Treatment Plant operated by the Authority and owned by the Monmouth County Improvement Authority is located at the Manasquan Intake Site.

The technology employed in the design of the treatment plant has proven able to effectively treat raw water drawn from the river and the reservoir as well as a blend of the two water sources. In the treatment process, the plant employs preoxidation and predisinfection with ozone, coagulation with aluminum sulfate, flocculation, clarification/filtration package units, granular activated carbon adsorption (GAC) contact, disinfection, pH adjustment and the addition of a corrosion control agent. The quality of the plant effluent continues to

surpass the design predictions.

The plant staff has put their operating experience to use by streamlining the treatment process. The use of treatment chemicals, a major budget item, has been steadily reduced, resulting in a savings to the customers and lower treatment plant residuals. The treated water quality readily meets standards set by current State and Federal regulations.

The Manasquan plant provides between 15 and 85 percent of the drinking water consumed in the customer communities. The treatment plant was designed to function as a constant flow facility meeting the base demand of the customer communities; however, the demand imposed upon the plant is greatest during the day and is at a minimum during the late night and early morning hours. The plant staff has developed operational plans which meet this demand pattern.

The Authority continues to utilize its NJDEPs permit for the distribution and land application of water treatment residuals produced by the Manasquan plant. Laboratory analysis has indicated that the treatment plant residuals are not harmful and that beneficial use can be made of the material.

The NJDEPs permit offers different options to the Authority for re-use of the residuals. The residuals may be employed as a soil enhancer through direct land application or blended with sediment from the Intake Pump Station to create "topsoil" for use throughout the Manasquan Reservoir System.

A long-term plan has been developed to return portions of the project site to agricultural uses by incorporating the residuals into the soil to improve the soil

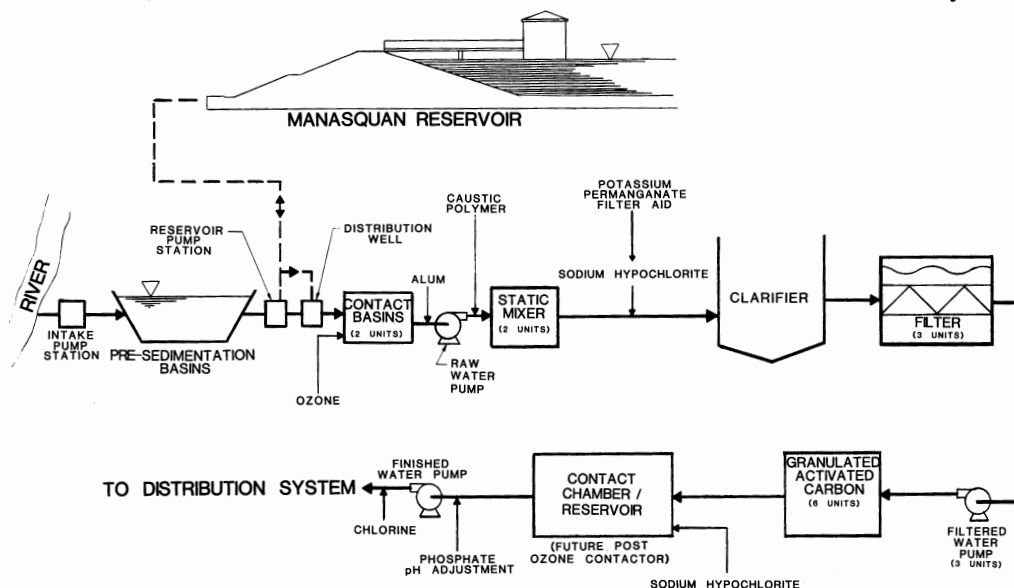
consistency and mineral content. During each of the last two fall planting seasons, a small grain crop was planted on a 7.3 acre parcel of land after direct land application of residuals. A farm lease was set up with a local farming business to produce straw bales from the small grain crop. The field has yet to yield production of straw bales because of the damage caused by a resident goose population. Since the permit has been in place, the Buildings and Grounds Unit has utilized the blended material for fill on a wide variety of projects that managed to keep the amount of residuals stored on-site within the permit requirements.

A five year capital program has been designed to upgrade the water treatment plant and transmission system facilities in anticipation of amended NJDEP regulations and requirements and to provide for general facility improvements. The projects include chemical feed system replacements, engineering of an upgrade for the adsorption clarifier/filter units, meter vault improvements, updating the plant's computer operating system, recycle water system analysis, upgrade of the sodium hypochlorite storage/feed system and other modifications for estimated project costs in the amount of \$225,000 on an annual basis.

The water treatment plant was brought into Year 2000 compliance earlier this year when Authority personnel completed the purchases and installation of a new software package with associated computer equipment to operate the plant's control system. The new computer program has been operating at the water treatment plant since July and meets with system compliance.

A professional engineering services contract was issued to Metcalf & Eddy, Inc., in July 1998 for engineering an upgrade to the adsorption clarifier/filter units and reviewing filter to waste and recycle water issues for the water treatment plant. The project identified and assessed the current operations, investigated options to enhance filtered water quality, and looked at ways to reduce and manage plant use water in the most economical way.

Metcalf & Eddy, Inc. has completed the preliminary design phases of the project and are currently nearing completion of the final design drawings and specifications for an upgrade to the clarifier/filter units. The units will undergo extensive work within the filter area. The filters will be totally reconstructed utilizing a different filter media and a new underdrain system.



MANASQUAN WATER TREATMENT PLANT

FLOW SCHEMATIC

The new filters will be cleaned with a combination of air and filtered water backwash. The construction time frame to accomplish the upgrade to these units has yet to be determined.

The Authority has also been working with Killam Associates-Consulting Engineers on the upgrade to the sodium hypochlorite storage/feed system. The consultants have

identified a temporary feed system, final replacement equipment and the redesign of the sodium hypochlorite room. Authority personnel are now in the process of accepting vendor proposals on the temporary feed system so that the work can then begin within the sodium hypochlorite room.

Watershed Protection Unit

Watershed Management for the Raritan River Basin

Central New Jersey depends heavily on water resources of the Raritan River Basin. Our ground and surface waters provide potable water for nearly 1.2 million people, recreational opportunities, habitat for aquatic life, aesthetic benefits and many other advantages. Protecting these water resources, and improving them where necessary, will be vital for the continued health of our communities.

The Raritan River Basin is actually a collection of many watersheds- areas of land that collect runoff from precipitation and direct it to streams, rivers, lakes and reservoirs. These waters all drain to a common point - the Raritan Bay, between Perth Amboy and Sayreville. Major waterways in the Basin include the North Branch and South Branch of the Raritan River, the Millstone River, the Green Brook, the Lawrence Brook, and the South River along with all their many feeder streams. Some of these watersheds are among the healthiest in New Jersey, while others are considerably degraded. The Delaware and Raritan Canal, which brings water from the Delaware River to the eastern part of the Basin, augments Raritan water supplies. In addition, ground water underlies the entire Basin. This ground water system receives water from land surfaces and gradually releases the water to surface waters and to wells. All in all, the Basin covers approximately 1,100 square miles in Hunterdon, Mercer, Middlesex, Monmouth, Morris, Somerset, and Union Counties.

Like all watersheds, the Raritan Basin can

only provide benefits to society and to the environment if the stresses of land uses, water uses and pollutant discharges are limited to safe, sustainable levels. New Jersey is the most densely populated state in the nation - the Raritan River Basin has approximately 1.2 million residents with all the related residential, commercial, industrial and institutional land uses. While



Protecting the Raritan Basin System water resources and improving them where necessary will continue providing nearly 1.2 million people with a source of potable water.

upgrades in wastewater treatment have achieved major benefits, the sheer number of residents and workers - with their water uses and the pollutants that they and their cars, lawns, roads and land uses generate - creates major stresses for our water resources. In addition, poorly managed land uses create more stormwater runoff that damages stream corridors. Existing land uses and water demands are the critical issues in some parts of the Basin, while in others new land uses and water demands are key.

In 1996, the New Jersey Water Supply Authority ("Authority") and a number of

agencies and organizations in the Raritan River Basin decided that a regional approach was needed to address the many watershed issues. At the same time, the New Jersey Department of Environmental Protection (NJDEP) was recognizing that watershed pollutant loads, water withdrawals and land uses were creating new management issues that could not be addressed by regulatory programs alone. NJDEP created a watershed management process to address these issues, modeled on programs elsewhere in the nation. In the Raritan River Basin, NJDEP agreed that the partnership (*New Jersey Water Supply Authority, United States Geological Survey, USDA-Natural Resources Conservation Service, South Branch Watershed Association, Stony Brook-Millstone Watershed Association, Upper Raritan Watershed Association, Rutgers Center for Environmental Communication, North Jersey Resource Conservation & Development Council*) formed by the Authority should take the lead for watershed management in the entire Raritan River Basin, in cooperation with the Raritan Region staff of NJDEP's Division of Watershed Management. In February 1999, Robert C. Shinn, Jr., Commissioner of NJDEP presented a check for \$624,950 to the Authority for the first phase of the project.

In 1999, the Authority hired staff for this project - the first Authority staff entirely focused on addressing the impacts of "external" conditions (such as water pollution) on water supplies of the Authority and its customers. The project partners began development of a characterization (current status and trends) and assessment (comparison of the current status to the desired condition) for the entire Basin. A large committee of public and private interests from around the Basin was formed



The Watershed Protection Unit is housed in the 10 Mile Lock House in Franklin Township, Somerset County.

in May 1999 to help guide the project. The resulting Characterization & Assessment Report will be a basis for the next step - developing a Raritan River Basin Management Plan that is both effective and accepted by the public, local governments, private interests and the NJDEP. Both the Report and the Plan will address water quality, water supply, stormwater impacts and the health of aquatic ecosystems in the Basin. NJDEP recommended in mid-1999 that the Authority also be the lead agency for the management planning phase of this project (scheduled to start in the Fall 2000) for the entire Basin.

Watershed Management for the Manasquan River Watershed

The NJDEP and the Monmouth County Board of Chosen Freeholders agreed in 1998 to establish a special watershed management project for the Manasquan River Watershed, using federal funds from the Coastal Zone Management Act. The Manasquan Watershed Management Group was formed with representatives from a wide variety of public and private interests. The Authority has served on the Management Group since its initiation, and has worked to ensure that the water supply investment in the watershed would be safeguarded. A Characterization & Assessment Report was completed in early 1999, identifying various issues in the freshwater and estuarine parts of the watershed. The Manasquan Watershed Management Group began development of a management strategy to address issues identified by that report. Completion of a draft management strategy is anticipated in Spring 2000.

Statewide Watershed Management Initiatives

The Authority has been closely involved in watershed management initiatives that have a statewide impact. Most of these efforts are managed by the NJDEP. Authority staff has been involved with, among other efforts: New Jersey Water Supply Advisory Council, Watershed Management Committee of the New Jersey Clean Water Council, Watershed Management Rules Advisory Committee, Surface Water Quality Standards Advisory Committee, Nonpoint Source Advisory Committee, Drought Policy Committee, and Water Purveyors Coalition.

Letter of Transmittal - Chief Financial Officer



NEW JERSEY WATER SUPPLY AUTHORITY

Post Office Box 5196 • Clinton, NJ 08809 • (908) 638-6121

Fax • (908) 638-5241

August 27, 1999

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, 1999 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 Comprehensive Annual Financial Report.

The Comprehensive Annual Financial Report is presented in three sections: Introductory, Financial, and Statistical. The Introductory Section contains a reproduction of the Authority's Government Finance Officers Association Certificate of Achievement, a list of principal officials, the

organizational chart, a letter to the Governor, and operational and maintenance information on the Raritan Basin System, the Manasquan Water Supply System and the Manasquan Water Treatment Plant and Transmission System, and the Watershed Protection Unit. The Financial Section contains the Independent Auditor's Report, the Financial Statements for fiscal year 1999, and comparative data for fiscal year 1998, as well as notes and supplemental information to the Financial Statements. The Statistical Section contains historical, financial, and operational data on a multi-year basis.

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 Monmouth County Improvement Authority (MCIA), 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.

The Authority is governed by a seven member Board of Commissioners. The Board of Commissioners consists of the Commissioner of the Department of Environmental Protection of the State of New Jersey who serves as Chair and six public members appointed for three year terms by the Governor with the advice and consent of the Senate. The Commissioner may designate, in writing, an officer or employee of the Department as a representative to act on behalf of the Commissioner. The members must include one expert in the field of Water Resource Management and Distribution, and one expert in Public Finance. The remaining members must represent the Agricultural Community, Industrial Water Users, Residential Water Users, and Private Watershed Associations. The Board annually designates a Vice Chairman, a Treasurer, and a Secretary. The members of the Authority serve without compensation.

The Executive Director is responsible for the management of the daily operations of the three systems and prepares proposals for presentation to the Board of Commissioners at monthly business meetings. The Executive Director is responsible for implementing such proposals after presentation to, and approval by the Board. The Authority's Executive Director heads a full-time staff of professional, technical, and

operational personnel totaling 124 employees, consisting of 99 employees of the Raritan Basin System and 25 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. A copy of the minutes of every meeting of the Authority must be delivered to the Governor. Actions taken at the meeting will not be effective until ten business days after the copy of the minutes has been delivered. If in this ten day period the Governor returns the copy of the minutes with a veto of any action taken by the Authority at that meeting, the action will be ineffective. 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 consolidated 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. This internal control structure includes policies, procedures, approved organizational structures, and approved budgets for capital and operating expenditures.

The Authority adopts an annual budget for its operations and establishes water rates accordingly. The budget of the Authority does not establish legal spending limitations, but is used for the purpose of establishing rates. Although the Authority is only required to give at least six months advance notice of proposed rate adjustments to contractual customers, the Authority usually begins the rate adjustment procedure nine months in advance of the effective date through informal meetings with the water users. The initial informal meeting with the water users usually takes place in October of the year preceding the proposed effective date of the following July 1.

Financial Position

The total assets of the Authority as of June 30, 1999 were \$222,987,862, an increase of less than one percent over the previous year's total of \$222,803,932. The Consolidated Utility Plant in service increased \$541,473, less than one percent, from \$222,357,176 to \$222,898,649. Utility Plant in service of the Raritan Basin System increased \$501,594, less than one percent, from \$129,941,132 to \$130,442,726. The increase within this System is largely due to completed projects associated with the Authority's current Five Year Capital Improvement Program being transferred from construction work in progress to utility plant in service. The Authority anticipates spending \$1.5 to \$2 million a year during the period 2000-2005 for capital improvement projects and will finance this Five Year Capital Improvement Program

utilizing an internally generated Capital Fund component. The Authority established a new Capital Fund Component of \$10 per million gallons (mg) effective July 1, 1994 with subsequent changes in this component of the total rate structure to \$15 per mg effective July 1, 1995, \$20 per mg effective July 1, 1996, \$29.22 per mg effective July 1, 1997, \$28.98 per mg effective July 1, 1998, and to \$34.69 per mg effective July 1, 1999. The Authority deems that the use of these internally generated funds for capital improvements is the most cost effective method of financing. This method of financing annual capital improvements will also place the Authority in the strongest possible financial position to meet the needs of the Raritan Basin System in the 21st century. As of June 30, 1999, a total of \$7,725,963 has been expended on projects within this Capital Improvement Program.

Utility Plant in Service of the Manasquan Water Supply System increased \$39,879, less than one percent, from \$92,416,044 to \$92,455,923. The small increase is due to capital items being placed into service. The Utility Plant associated with the Manasquan Water Treatment Plant and Transmission System is not reported within the Authority's financial statements and is the responsibility of the MCIA. The MCIA contracts with the Authority to operate the water treatment plant and related transmission facilities.

The total of cash and cash equivalents for the Authority increased \$1,785,261, or one percent, from \$15,966,855 to \$17,752,116. The increase in cash is mainly attributable to an increase in unanticipated revenues within the Raritan System, and an increase in the Capital Improvement Fund due to decreased operational costs within the Raritan System.

Current liabilities increased \$1,234,191, or twenty-one percent, from \$5,930,253 to \$7,164,444. The increase is primarily due to

the increase in deferred revenue from \$296,677 in fiscal year 1998 to \$939,001 in fiscal year 1999. Deferred revenue increased with the receipt of the Watershed Protection Grant of \$624,950 from the NJDEP. Total capitalization of the Authority increased \$2,606,009, or three percent, from \$84,327,998 to \$86,934,007.

The Consolidated Revenues decreased by \$312,765 or two percent, due to a decrease in the Manasquan Reservoir System revenues, from \$18,550,163 to \$18,237,398. The Consolidated Operating Expenses increased \$355,649, or four percent, from \$8,571,774 to \$8,927,423. Contained in the following paragraphs is an explanation of changes in revenue and expense for each system.

The Raritan Basin System Revenues increased \$459,145, or four percent, from \$12,682,327 to \$13,141,472. The increase in revenues is due to an increase in overdraft revenue collected. Total Operating Expenses increased \$355,735, or six percent, from \$5,601,479 to \$5,957,214. Payroll and Fringe Benefits increased \$186,863, or four percent, from \$4,251,634 to \$4,438,497 due to contractual salary increases and fringe benefit renewal increases. Operations and Maintenance expenses increased \$168,872, or twelve percent, from \$1,349,845 to \$1,518,717, mostly due to increases in insurance and electrical costs.

The Manasquan Water Supply System Revenues decreased \$771,910, or thirteen percent, from \$5,867,836 to \$5,095,926. The decrease in revenues is due to the downward adjustment in the water rates from \$938.92 per mg on July 1, 1997 to \$832.92 per mg on July 1, 1998. Total Operating Expenses decreased \$3,328, or less than one percent, from \$1,673,076 to \$1,669,748. Payroll and Fringe Benefits increased \$55,762, or nine percent, from \$636,020 to \$691,782. The increase is due

to contractual salary increases and fringe benefit renewal increases. Operations and maintenance expenses decreased \$59,090, or six percent, from \$1,037,056 to \$977,966, mostly due to decreases in electrical expense.

Operating Revenue for the Manasquan Water Treatment Plant and Transmission System increased \$71,297, or six percent, from \$1,245,507 to \$1,316,804 and total operating expenses increased \$3,242, or less than one percent, from \$1,297,219 to \$1,300,461. The budget is prepared on the basis of delivering the contracted amount of 3.42 million gallons per day (mgd) to the five participating municipalities. The actual operations and maintenance expenses will vary with the actual draw from the treatment plant. The Water Treatment Plant Payroll and Fringe Benefits increased \$38,147, or seven percent, from \$550,557 to \$588,704, and is subject to the same increases or decreases as the Manasquan Reservoir System depending upon the allocation of employee responsibilities between the two systems. Operations and Maintenance expenses decreased from \$746,662 to \$711,757, due to decreases in electrical cost and chemicals.

At the April 1999 Authority meeting, the Authority adopted a Raritan Basin System rate to become effective July 1, 1999 of \$205.00 per mg covering Operations and Maintenance, Debt Service, and the Capital Fund Component, for the fiscal year ending June 30, 2000. This rate decreased from the previous fiscal year rate of \$211.16 per mg. The proposed rate for the fiscal year ending June 30, 2001, effective July 1, 2000, is \$205.00 per mg covering Operations and Maintenance, Debt Service, and the Capital Fund Component. The proposed fiscal year 2001 rate represents no change from the previous fiscal year.

A revised rate of \$695.31 per mg, effective July 1, 1999, was adopted for the Manasquan Water Supply System at the April 1999 Authority meeting. In accordance with the Manasquan Reservoir Water Supply System Bond Resolution, Section 713, the Manasquan Water Supply System was required to establish a debt service coverage charge starting at five percent of gross debt service with the first interest payment date, 10 percent with the third interest payment date, 15 percent with the fifth interest payment date, and 20 percent with the seventh interest payment date and thereafter. The proposed fiscal year 2001 rate for the Manasquan Water Supply System is \$741.03 per mg, effective July 1, 2000. There will be no further changes in the water rate due to increases in debt coverage requirements, which reached a maximum coverage level of 20 percent as of February 1, 1994. The proposed rate of \$741.03 per mg, effective July 1, 2000, represents a rate increase from the previous fiscal year of \$695.31 per mg, or seven percent.

The Authority entered into an agreement on September 1, 1987 with the MCIA to design, construct, operate and maintain the Manasquan Water Treatment Plant and Transmission System. The MCIA raises all of the revenues necessary to cover operations and maintenance expenses and debt service. The MCIA transfers to the New Jersey Water Supply Authority the annual budget requirements on a monthly basis. The Authority is responsible for presenting a calendar year operating budget to the MCIA at least 210 days prior to the beginning of each calendar year. The Authority is responsible for submitting a statement of actual operations and maintenance expenses for the prior fiscal (calendar) year to the MCIA 120 days after

the end of each calendar year. The budget for calendar year 1999 is \$1,303,964, which represents a two percent decrease or \$25,654, over calendar year 1998's budget of \$1,329,618.

Cash Management

The Raritan Basin System had a total of \$23,195,731 in cash and investments as of June 30, 1999. These funds generated interest income of \$1,191,909.

The Manasquan Water Supply System had a total of \$9,729,943 in cash and investments as of June 30, 1999. These funds generated interest income of \$523,440.

The Manasquan Water Treatment Plant and Transmission System had a total of \$365,349 in cash and investments, which consisted of operating funds held by the Authority, as of June 30, 1999. These funds generated interest income of \$16,259.

Funds of \$6,699,843 of the Raritan Basin System, and \$4,342,076 of the Manasquan Reservoir System are held by the Trustees in accordance with bond resolutions and are invested in securities of the U.S. Government and its agencies and are collateralized at 102 percent of the carrying amount. Funds of \$12,938,120 of the Raritan Basin System, \$4,258,354 of the Manasquan Reservoir System, and \$343,885 of the Manasquan Water Treatment Plant and Transmission System were invested in the State of New Jersey Cash Management Fund. State laws permit the Division of Investment to invest in a variety of securities, such as obligations of the U.S. Government and its agencies, commercial paper, certificates of deposit, repurchase agreements, banker's acceptances, and loan participation notes. All such investments must fall within the guidelines set forth by

the regulations of the State's Investment Council. The Investment Council does not impose any limits on the amounts of funds, which may be deposited or withdrawn. The low interest rate in the State of New Jersey Cash Management Fund have brought new investment challenges to the Authority, and as a result, the Authority had elected to invest \$3,508,509 of funds from the Raritan Basin System and \$882,001 of funds from the Manasquan Reservoir System in Five Year (non-callable) Federal National Mortgage Association Securities at a nine percent return, due June 12, 2000. Funds of \$49,259 of the Raritan Basin System, \$247,511 of the Manasquan Reservoir System, and \$21,464 of the Manasquan Water Treatment Plant and Transmission System were held at PNC Bank representing the Revenue, Operating and Payroll accounts as of June 30, 1999.

Debt Service

The Raritan Basin System has the obligation to repay the following debt.

The 1969 Bond Fund obligation has a remaining principal and interest balance of \$2,108,787 and \$201,214, respectively, as of June 30, 1999. The bonds bear interest at 5.4 percent and payments are made semi-annually in the amount of \$385,000, including interest through June 25, 2002.

On December 12, 1985, the Authority obtained a loan of \$19,600,000 from a 1981 State of New Jersey Water Supply Bond Appropriation of \$20,550,000 for the purpose of financing the Dredging Program for the Delaware and Raritan Canal. The 1981 Bond Fund obligation has a remaining principal and interest balance of \$11,547,000 and \$2,800,184, respectively, as of June 30, 1999. During June 1997, the Authority, through an agreement with the

State of New Jersey, reduced the interest rate on this loan from 7.30 percent to 5.58 percent effective for the payments due on and after November 1, 1998. For an overall savings of \$1,137,686. Debt Service payments are made semi-annually and range from \$169,204 to \$1,846,108 through November 1, 2006.

On December 7, 1988, the Authority issued \$32,405,000 of 25 year Water System Revenue Bonds, Series 1988, to finance a Five Year Capital Improvement Program for projects relating to the Delaware and Raritan Canal and the Spruce Run/Round Valley Reservoirs System. The Series 1988 Bonds are obligations of the Authority payable from revenues and pledged property. Payments on the Series 1988 Bonds are secured solely by pledged properties of the Authority.

In accordance with the Delaware and Raritan Water System Revenue Bonds, Series 1988, Bond Resolution, Section 713, the Raritan Basin System's schedule of rates shall be maintained at such a level so as to produce net revenues equal to at least 1.20 times the amount required to be paid in the Debt Service Account. For fiscal year 1999, the coverage is adequate at 2.67.

The Authority decided to take advantage of favorable market rates on the call date of November 1, 1998, and issue \$28,290,000 in 15 year Water System Revenue Refunding Bonds, Series 1998 to refund on a current basis \$28,465,000 in Water System Revenue Bonds, Series 1988. The refinancing of the 1988 Bonds with the 1998 Bonds will produce net present value savings to the Authority of \$4,207,589 which is 14.7 percent of the principal amount of the 1988 Bonds being refunded. The true interest cost of the 1998 Bonds is 4.8748 percent as compared to the original true interest cost of the 1988 Bonds which was 7.9926 percent.

The Prior Bonds were subject to the private activity bond refunding limitation because a substantial portion of the System's water is sold to privately-owned water companies. No refinancing could occur until 90 days prior to the first call date of the 1988 Bonds. The call date on the 1988 Bonds was November 1, 1998 so that the closing on the 1998 Bonds had to occur on or after August 3, 1998. The Authority used the Forward Refunding settlement method on June 4, 1998, and the 1998 Bonds were offered to the market for a settlement on August 3, 1998.

The 1998 Bonds are private activity bonds and interest earned on the 1998 Bonds will be tax-exempt, but will be subject to the alternative minimum tax. The 1998 Bonds may not be refunded prior to their first call date on November 1, 2007. The payment of principal and interest on the 1998 bonds are insured by MBIA. The 1998 Bonds are rated AAA/aaa by Standard & Poor's Corporation and Moody's Investors Service. Standard & Poor's gave an underlying rating of A+ to the 1998 Bonds.

The Series 1998 Revenue Refunding Bonds have a Bond yield of 4.78 percent, the remaining principal and interest balance is \$28,290,000, and \$12,369,034, respectively, at June 30, 1999. Semi-annual payments range from \$69,875 to \$2,669,875 through November 1, 2013.

The Manasquan Water Supply System has the obligation to repay the \$63,600,000 of State Loan Notes, and the \$7,416,000 of Completion Loan Notes, which were sold to construct the Manasquan Reservoir Facilities. During June 1997, the Authority, through an agreement with the State of New Jersey, reduced the interest rate on the State Loan Notes from 7.15 percent to 5.93 percent, effective for the payments due on and after August 1998, for an overall

savings of \$8,013,134. The Completion Loan Notes bear interest at 6.24 percent, converted from 7.16 percent interim Advance Notes effective February 1, 1992. The current portion of the debt is defined as the ratio of the present water purchased under contract divided by the total system yield of 30 mgd. At present the Manasquan Reservoir System has 16.097 mgd sold under contract. The Authority has the obligation only to repay the current portion of the loans as defined in the terms of the State Loan Agreement. The State Loan Notes and the Completion Loan have a principal and interest balance of \$125,047,639, at June 30, 1999, which represents both the current and deferred portion. The current portion of the State Loan Notes have a remaining principal and interest balance of \$38,125,229 and \$30,119,315, respectively, and the deferred portion has a principal balance of \$44,703,907, at June 30, 1999. The State Loan Notes are payable through semi-annual installments which range from \$89,327 to \$3,102,025 through August 1, 2020. The current portion of the Completion Loan Notes have a remaining principal and interest balance of \$4,019,277 and \$3,366,141, respectively, and the deferred portion has a principal balance of \$4,713,795, at June 30, 1999. Completion Loan Notes are payable through semi-annual installments which range from \$10,177 to \$334,394 through August 1, 2020.

Risk Management

The Authority carries property insurance for all of its facilities covering direct physical loss or damage and loss of revenue resulting therefrom, with deductibles as it deems appropriate. The Authority also carries General and Umbrella Liability

Insurance and Automotive coverage, with self-insured retainers as it deems appropriate. Public Officials Liability coverage with enhanced Employment Liability coverage is also maintained with deductibles. Workers' Compensation coverage is also maintained as required by State law.

Independent Audit

In accordance with the "New Jersey Water Authority Act" (P.L. 19981, c293), 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. Ernst & Young LLP, Certified Public Accountants, was retained to perform an audit of the 1999 Fiscal Year in accordance with generally accepted auditing standards and *Government Auditing Standards* issued by the Comptroller General of the United States. Ernst & Young LLP reports directly to the Audit Committee of the Board of Commissioners. Ernst & Young LLP also performed, as part of the annual audit, a review of the internal control structure.

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 and Capital Fund Component.

Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial

Reporting to the New Jersey Water Supply Authority for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 1998. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized Comprehensive Annual Financial Report (CAFR), whose contents conform to program standards. Such CAFR 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 has received a Certificate of Achievement for the last seven years (fiscal years ended June 30, 1992 through June 30, 1998). We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to the GFOA for consideration.

Acknowledgements

The preparation of this report on a timely basis could not be accomplished without the efficient and dedicated services of the Financial and Administrative staff of the New Jersey Water Supply Authority. In particular, the Financial Secretary, Doris Stecker, for the in-house typing and preparation of the report, and Steve Hardick, Chief of Safety and Security, and Gerry Hoagland, Safety Coordinator, who helped in the collecting, editing, and printing of the report. Any financial report is also only as good as the accounting records that supply its supporting data. The Authority's entire accounting staff, supervised by Rita Nagy, deserves special recognition for their

dedication, perseverance and attention to detail that results 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. I would like to express my appreciation to all employees of the New Jersey Water Supply Authority who contributed to this report's preparation. The report also could not have been prepared without the full support and encouragement of the Chair and Members of the Board, and the Executive Director.

Economic Outlook

The continuing economic viability of the Authority is ensured by the water contracts we maintain 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 1999, the Authority supplied water to fifteen contractual customers of the Raritan Basin

System and fourteen contractual customers of the Manasquan System. Two customers accounted for approximately 81 percent of total Raritan Basin System operating revenues. Three customers accounted for approximately 76 percent of total Manasquan System operating revenues. 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. Strong population growth trends presently characterize the central and shore regions of New Jersey and we expect our major water customers to be increasing their contractual water allocations in the future.



Michael R. Citarelli
Chief Financial Officer

Financial Section

Report of Independent Auditors

General Purpose Financial Statements

Consolidated Balance Sheets

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Expenses and Changes in Retained Earnings

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Report of Independent Auditors

To the Commissioners of the
New Jersey Water Supply Authority

We have audited the accompanying consolidated balance sheets of the New Jersey Water Supply Authority (the "Authority"), component unit of the State of New Jersey, at June 30, 1999 and 1998, and the related consolidated statements of revenues and expenses and changes in retained earnings and cash flows for the years then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards 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 of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the New Jersey Water Supply Authority at June 30, 1999 and 1998 and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

The Year 2000 issue supplementary information listed in the foregoing table of contents, is not a required part of the basic financial statements, but is supplementary information required by the Governmental Accounting Standards Board (GASB), and we did not audit and do not express an opinion on such information. Further, we were unable to apply to the information certain procedures prescribed by professional standards because disclosure criteria specified by GASB Technical Bulletin No. 98-1, as amended, are not sufficiently specific to permit us to perform procedures that would provide meaningful results. In addition, we do not provide assurance that the Authority is or will become Year 2000 compliant, that the Authority's Year 2000 remediation efforts will be successful in whole or in part, or that parties with which the Authority does business are or will become Year 2000 compliant.

In accordance with *Government Auditing Standards*, we have also issued a report dated August 5, 1999 on our consideration of the New Jersey Water Supply Authority's internal control over financial reporting and our test of its compliance with certain provisions of laws and regulations, contracts and grants.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental information listed in the table of contents is presented for the purpose of additional analysis and is not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in our audit of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

Ernst + Young LLP

August 5, 1999

New Jersey Water Supply Authority
Consolidated Balance Sheets

	June 30	
	1999	1998
Assets		
Utility plant:		
Utility plant in service <i>(Note 3)</i>	\$222,898,649	\$222,357,176
Less accumulated depreciation <i>(Note 3)</i>	60,277,271	54,750,450
Net utility plant in service	162,621,378	167,606,726
Construction work in progress	4,203,077	2,377,049
Net utility plant	166,824,455	169,983,775
Current assets:		
Cash and cash equivalents <i>(Note 4a. and b.)</i>	17,142,394	15,966,855
Unbilled sales	1,055,260	997,794
Accounts receivable, less allowance for doubtful accounts of \$1,000 at June 30, 1999 and 1998	1,265,473	1,338,629
Interest receivable <i>(Note 4b.)</i>	112,219	114,158
Prepaid expenses and other current assets	353,541	337,860
Total current assets	19,928,887	18,755,296
Restricted cash equivalents and investments:		
Cash equivalents	609,722	
D & R System Revenue Refunding Bonds, Series 1998 proceeds, current <i>(Note 4b.)</i>	6,699,843	
D & R System Revenue Bonds, Series 1988 proceeds, current <i>(Note 4b.)</i>		5,859,140
Manasquan System-State Loan Notes proceeds, current <i>(Note 4b.)</i>	2,518,535	2,358,943
Manasquan System-State Loan Notes proceeds, long-term <i>(Note 4b.)</i>	1,844,651	1,896,020
Total restricted cash equivalents and investments	11,672,751	10,114,103
Long-term investments <i>(Note 4b.)</i>	4,296,019	4,411,246
Costs to be recovered from future revenues <i>(Note 2)</i>	19,511,014	18,711,542
Deferred issuance cost	754,736	827,970
Total assets	\$222,987,862	\$222,803,932

See accompanying notes.

New Jersey Water Supply Authority
Consolidated Balance Sheets (continued)

	June 30	
	1999	1998
Capitalization and liabilities		
Capitalization:		
Contributed capital	\$ 51,402,335	\$ 51,402,335
Retained earnings	35,531,672	32,925,663
Total capitalization	86,934,007	84,327,998
Long-term liabilities:		
Due to State of New Jersey including accrued interest of \$25,563,184 at June 30, 1999 and 1998 (Note 5)	102,442,820	105,217,996
D & R System Revenue Refunding Bonds, Series 1998, including unamortized bond premium of \$785,904 and net of unamortized deferral of \$1,284,313 at June 30, 1999 (Note 6)	26,446,591	
D & R System Revenue Bonds, Series 1988, net of unamortized bond discount of \$172,315 at June 30, 1998 (Note 6)		27,327,685
Total long-term liabilities	128,889,411	132,545,681
Current liabilities:		
Current portion of amounts due to State of New Jersey and principal on bonds	4,120,175	3,345,087
Accounts payable	395,431	434,814
Accrued payroll and payroll taxes	192,258	169,278
Accrued vacation	143,934	151,514
Accrued interest	1,373,645	1,532,883
Deferred revenue (Note 2)	939,001	296,677
Total current liabilities	7,164,444	5,930,253
Total liabilities	136,053,855	138,475,934
Total capitalization and liabilities	\$222,987,862	\$222,803,932

See accompanying notes.

New Jersey Water Supply Authority
 Consolidated Statements of Revenues and Expenses
 and Changes in Retained Earnings

	Year ended June 30	
	1999	1998
Operating revenues:		
Water sales	\$18,237,398	\$18,550,163
Reimbursement of operating expenses	1,316,804	1,245,507
Total operating revenues	19,554,202	19,795,670
Operating expenses:		
Payroll	4,491,112	4,344,427
Operations and maintenance	3,208,440	3,133,563
Fringe benefits	1,227,871	1,093,784
Total operating expenses	8,927,423	8,571,774
Income from operations before depreciation	10,626,779	11,223,896
Depreciation	5,553,456	5,561,782
Income from operations	5,073,323	5,662,114
Costs to be recovered from future revenues (<i>Note 2</i>)	774,023	1,111,458
Nonoperating revenues:		
Investment income	1,551,978	1,803,493
Rental income	50,778	54,048
Other income	26,537	145,651
Total nonoperating revenues	1,629,293	2,003,192
Nonoperating expenses:		
Interest component of debt service to the State of New Jersey	4,825,010	6,161,706
Amortization of issuance costs-D & R System Revenue Refunding Bonds, Series 1998	16,728	
Amortization of issuance costs and bond discount - D & R System Revenue Bonds, Series 1988	13,001	38,270
Amortization of issuance costs - Manasquan State Loan Notes	14,100	15,076
Other	1,791	300,000
Total nonoperating expenses	4,870,630	6,515,052
Net income	2,606,009	2,261,712
Retained earnings, beginning of year	32,925,663	30,663,951
Retained earnings, end of year	\$35,531,672	\$32,925,663

See accompanying notes.

New Jersey Water Supply Authority
Consolidated Statements of Cash Flows

	Year ended June 30	
	1999	1998
Cash flows from operating activities		
Cash received from water sales	\$ 18,268,862	\$ 18,549,383
Cash received from reimbursable expenses	1,311,089	1,260,494
Cash received from rental income	14,617	14,223
Cash paid to or on behalf of employees	(5,667,434)	(5,383,148)
Cash paid to suppliers	(3,253,237)	(3,418,070)
Cash received for watershed study	609,722	
Net cash provided by operating activities	11,283,619	11,022,882
Cash flows from capital and related financing activities		
Proceeds from sale of refunding bonds	29,112,241	
Principal paid on capital obligation	(31,502,027)	(3,141,369)
Interest paid on capital obligation	(5,079,807)	(6,435,974)
Issuance costs paid on refunding	(366,430)	
Additions to utility plant	(2,382,554)	(2,017,280)
Net cash used in financing activities	(10,218,577)	(11,594,623)
Cash flows from investing activities		
Sale of investment securities	16,011,739	20,081,972
Purchase of investment securities	(16,845,437)	(19,640,700)
Interest received on investments	1,553,917	1,730,619
Net cash provided by investing activities	720,219	2,171,891
Net increase in cash and cash equivalents	1,785,261	1,600,150
Cash and cash equivalents, beginning of year	15,966,855	14,366,705
Cash and cash equivalents, end of year	\$ 17,752,116	\$ 15,966,855
Reconciliation of income from operations to net cash provided by operating activities:		
Income from operations	\$ 5,073,323	\$ 5,662,114
Adjustments to reconcile income from operations to net cash provided by operating activities:		
Non-cash items expensed to operations and maintenance	(429)	(1,692)
Cash received for operating activity shown in other income	53,543	144,436
Cash paid for operating activity shown in other expense		(300,000)
Depreciation	5,553,456	5,561,782
Change in assets and liabilities:		
(Increase) decrease in unbilled sales	(57,466)	15,199
Decrease (increase) in accounts receivable	72,274	(5,635)
(Increase) decrease in prepaid expenses	(15,681)	80,873
Decrease in accounts payable	(28,103)	(75,216)
Increase (decrease) in accrued payroll and taxes	22,980	(58,979)
Increase in deferred revenue	609,722	
Net cash provided by operating activities	\$ 11,283,619	\$ 11,022,882

See accompanying notes.

New Jersey Water Supply Authority

Notes to Consolidated Financial Statements

June 30, 1999

I. Organization and Operations

The New Jersey Water Supply Authority (the "Authority"), consisting of the Spruce Run/Round Valley Reservoirs Complex and 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 of New Jersey, exercising public and essential governmental functions. The Authority is a component unit of the State of New Jersey. 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 (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 (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 it 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.

2. Summary of Significant Accounting Policies

Basis of Accounting

The Authority derives most of its revenues 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 as directed by internal resolution and bond indentures.

In its accounting and financial reporting, the Authority follows the pronouncements of the Governmental Accounting Standards Board (GASB). In addition, the Authority follows the pronouncements of all applicable Financial Accounting Standards Board (FASB) Statements and Interpretations, Accounting Principles Board (APB) Opinions and Accounting Research Bulletins (ARBs) of the Committee on Accounting Procedure issued on or before November 30, 1989, unless they conflict with or contradict GASB pronouncements. The Authority has elected not to apply the standards issued by the FASB after November 30, 1989.

Revenues

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

Utility Plant

Utility plant is stated at original cost and consists primarily of amounts expended to license, construct, acquire, complete and place

in operation the projects of the Authority. Such expenditures include labor, materials, services and indirect costs. Normal maintenance and repair costs are charged to operations and maintenance expense. Major repairs, improvements and replacements are capitalized. Costs of computer hardware and purchased software are capitalized. Interest earned on long-term debt proceeds used for utility plant construction and temporarily invested during the construction period is netted against interest expense. The excess, if any, is capitalized to construction work in progress, and the portion related to completed projects is expensed. The cost of utility plant retired net of any gain or loss on the disposal of such utility plant is offset to accumulated depreciation.

Depreciation

Utility plant is depreciated on the straight-line basis over the estimated useful lives of the various classes of plant.

Cash and Cash Equivalents

For purposes of the statements of cash flows the Authority considers non-restricted short-term investments that have original maturities of three months or less to be cash equivalents.

Investments

Short-term investments and restricted investments 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 services. All investments are carried at fair value, in accordance GASB Statement No. 31 "Accounting and Financial Reporting for Certain Investments and for External Investment Pools".

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 to a maximum of \$15,000.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles 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 NJSA27:25-16 and, accordingly, no provision is recorded for federal and state income taxes.

Costs to be Recovered from Future Revenues

The Authority's cost recovery rate model used to establish rates, fees and charges includes an amount for debt principal repayment,

Notes to Consolidated Financial Statements (continued)

but not for depreciation on the related debt financed assets and also includes vacation amounts paid. In accordance with FASB Statement No. 71, 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. The deferred costs will be recovered through future revenues in accordance with the rate model. The deferred amount for the years ended June 30, 1999 and 1998 were determined as follows:

	June 30	
	1999	1998
Raritan Basin System		
Cost excluded from rate model:		
Depreciation of debt-financed utility plant recoverable from rate payers	\$ 2,588,934	\$ 2,632,263
Excess vacation expense over vacation paid	(8,449)	234
	2,580,485	2,632,497
Cost included in rate model:		
Debt principal repayment	(2,448,112)	(2,398,702)
	132,373	233,795
Manasquan System		
Cost excluded from rate model:		
Depreciation of debt-financed utility plant recoverable from rate payers	1,562,777	1,562,913
Excess vacation expense over vacation paid	1,298	149
	1,564,075	1,563,062
Cost included in rate model:		
Debt principal repayment	(896,976)	(720,000)
	667,099	843,062
Total Raritan Basin and Manasquan	799,472	1,076,857
Balance, beginning of year	18,711,542	17,634,685
Balance, end of year	\$19,511,014	\$18,711,542

The cost to be recovered from future revenues of \$774,023 as shown in the income statement for the year ended June 30, 1999 includes \$32,602 of Manasquan Water Treatment Plant deferred revenue, which is not part of the rate model, and does not include a balance of \$7,153 of accrued vacation.

Accounting for Monmouth County Improvement Authority Agreement

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

Because of the difference resulting from billing the MCIA for budgeted expenses versus actual expenses appearing in the financial statements, the Authority includes deferred costs (actual costs exceed MCIA billings) or deferred revenues (MCIA billings exceed actual costs) in its balance sheet. These excess costs or billings will be recovered or recognized in future periods. As of June 30, 1999, deferred revenues amounted to \$329,279 and were determined as follows:

Reimbursement of operating expenses	\$ 1,333,064
Operating expenses	1,300,462
Deferred revenue	32,602
Balance, beginning of year	296,677
Balance, end of year	\$ 329,279

Accounting for Watershed Protection Program

During 1999, the Authority received \$624,950 from the New Jersey Department of Environmental Protection for the costs associated with a watershed protection study of the Raritan System. These funds are restricted for the use of mapping out streams and other water sources and will be recognized as revenue as the related costs are incurred. As of June 30, 1999, the balance of restricted cash equivalents and deferred revenue is \$609,722.

3. Utility Plant

Utility plant in service, at original cost consists of the following major classifications:

	Estimated Useful Life	June 30	
		1999	1998
Raritan Basin System:			
Land and land rights		\$ 6,126,958	\$ 6,126,958
Dams	100 years	34,114,867	34,114,867
Building, structures and improvements	15,40 years	65,669,817	65,342,975
D & R Canal			
Dredging	20 years	21,160,274	21,160,274
Machinery and equipment	3,5,10 years	3,370,810	3,196,058
		130,442,726	129,941,132
Manasquan System:			
Land and land rights		3,854,212	3,854,212
Dams	100 years	43,251,442	43,251,442
Building, structures and improvements	15,40 years	44,869,408	44,869,409
Machinery and equipment	3,5,10 years	480,861	440,981
		92,455,923	92,416,044
		\$222,898,649	\$222,357,176

Accumulated depreciation on utility plant in service consists of the following major classifications:

	Estimated Useful Life	June 30	
		1999	1998
Raritan Basin System:			
Dams	100 years	\$ 11,661,958	\$ 11,298,745
Building, structures and improvements	15,40 years	17,367,379	15,164,390
D & R Canal			
Dredging	20 years	14,222,481	13,146,257
Machinery and equipment	3,5,10 years	2,660,219	2,397,983
		45,912,037	42,007,375
Manasquan System:			
Dams	100 years	3,917,438	3,479,291
Building, structures and improvements	15,40 years	10,127,387	8,998,780
Machinery and equipment	3,5,10 years	320,409	265,004
		14,365,234	12,743,075
		\$ 60,277,271	\$ 54,750,450

Notes to Consolidated Financial Statements (continued)

4. Cash and Investments

New Jersey statutes permit the deposit of public funds in institutions located in New Jersey which are insured by the Federal Deposit Insurance Corporation (FDIC) or by any other agencies of the United States that insure deposits or in the State of New Jersey Cash Management Fund. All funds of the Authority may be invested in obligations of, or guaranteed by, the United States 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 which are members of the Federal Reserve System, investments in the State of New Jersey Cash Management Fund and direct and general obligations of any State which meets the minimum requirements of the resolution.

The State of New Jersey Cash Management Fund is managed by the State of New Jersey, Division of Investment under the Department of the Treasury. It consists of U.S. Treasury obligations, government agencies obligations, certificates of deposit and commercial paper.

a. Cash

The Authority's bank balance was \$557,827 at June 30, 1999, of which \$100,000 was covered through the Federal Depository Insurance. The remaining balance of \$458,396 was not collateralized. The cash balance per the consolidated balance sheet is shown exclusive of outstanding checks totaling \$239,095. The consolidated balance sheet amount includes petty cash totaling \$569.

b. Investments

Investments are categorized by credit risk as follows:

Description	GASB Category	Rate	Fair Value
Categorized investments:			
U.S. Treasury Bill (Chase Manhattan, due 7/29/99)	2	4.270%	\$ 1,521,634
U.S. Treasury Bill (Chase Manhattan, due 7/29/99)	2	4.180	79,771
U.S. Treasury Bill (Chase Manhattan, due 7/29/99)	2	4.290	668,083
U.S. Treasury Bill (Chase Manhattan, due 7/29/99)	2	4.215	174,499
FNMA (Fleet, due 6/12/00)	2	8.900	473,800
FNMA (Fleet, due 6/12/00)	2	8.900	236,900
FNMA (Fleet, due 6/12/00)	2	8.900	92,700
FNMA (Fleet, due 6/12/00)	2	8.900	46,350
FNMA (Fleet, due 6/12/00)	2	8.900	1,400,800
FNMA (Fleet, due 6/12/00)	2	8.900	473,800
FNMA (Fleet, due 6/12/00)	2	8.900	226,600
FNMA (Fleet, due 6/12/00)	2	8.900	932,150
FNMA (Fleet, due 6/12/00)	2	8.900	180,250
FNMA (Fleet, due 6/12/00)	2	8.900	252,350
U.S. Treasury Note (Chase Manhattan, due 2/15/00)	2	8.500	1,830,798
U.S. Treasury Note (Chase Manhattan, due 2/15/00)	2	8.500	73,395
			8,663,880
Uncategorized investments:			
State of New Jersey's Cash Management Fund (Morgan Stanley Dean Witter)	various		17,540,359
Compass U.S. Treasury Fund (Chase)	various		6,699,843
			24,240,202
Total investments, June 30, 1999			\$32,904,082

Component of investments:

Cash equivalents	\$17,432,815
Interest receivable	112,219
D & R System Revenue Refunding Bonds, Series 1998 proceeds, current	6,699,843
Manasquan System-State Loan Notes proceeds, current	2,518,535
Manasquan System-State Loan Notes proceeds, long-term	1,844,651
Long-term investments	4,296,019
	\$32,904,082

Category 2 - securities held by bank's trust department (counterparty) in the Authority's name.

c. Investment Income

Investment income of \$1,551,978 and \$1,803,493 for the years ended June 30, 1999 and 1998, respectively, was comprised of the following:

	1999	1998
Interest earned on bank accounts and certificates of deposit	\$1,108,975	\$1,051,331
Interest earned on securities	609,060	648,058
Increase (decrease) in fair value of securities	(166,057)	104,104
	\$1,551,978	\$1,803,493

5. Due to State of New Jersey

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

- a. The remaining principal and interest associated with the 1969 bond issue which amounted to \$2,108,787 and \$201,214, respectively, as of June 30, 1999. The bonds bear interest at 5.40 percent and are payable in semi-annual payments of \$385,000, including interest through June 25, 2002.
- b. The December 12, 1985 loan of \$19,600,000 which was obtained from the 1981 bond appropriation of \$20,550,000 for the purpose of financing improvements to the Delaware and Raritan Canal. The outstanding principal and interest on this loan amounted to \$11,547,000 and \$2,800,184, respectively, as of June 30, 1999. The loan bears interest at 5.58 percent and is payable in semi-annual payments, including interest, which range from \$169,204 to \$1,846,108 through November 1, 2006.
- c. The \$63,600,000 of Manasquan Reservoir Water Supply System (the "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 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 System. The State Loan Notes and the Completion Loan Notes bear interest at 5.93 percent and 6.24 percent (converted from 7.16 percent Interim Advance Notes effective February 1, 1992), respectively, and are

Notes to Consolidated Financial Statements (continued)

collateralized by the property and revenues of the System.

In accordance with the terms of the State Loan Agreement, the State Loan Notes are classified as either Current Debt Service Portion Notes (the "Current Notes") or Deferred Debt Service Portion Notes (the "Deferred Notes"). At June 30, 1999, the principal amount classified as the Current Notes was \$38,125,229 and are payable through annual installments which range from \$89,327 to \$3,102,025 and the principal amount classified as the Deferred Notes was \$44,703,907. Per the terms of the Agreement dated September 12, 1989, the Interim Advance Notes are to be accounted for in accordance with the terms of the State Loan Agreement. Accordingly, \$4,019,277 of the Interim Advance Notes have been classified as Current Notes and are payable through annual installments which range from \$10,117 to \$334,394 and the remaining \$4,713,795 have been classified as Deferred Notes.

The 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 which accreted as principal through July 31, 1990 accrued interest; however, the interest which accreted for the period from August 1, 1990 through July 31, 1993 did not accrue interest. 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, 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 System on an annual basis. Such Current Notes are payable over a thirty year period commencing from a date as defined, in the State Loan Agreement. The accretion of interest to the principal amount for the Current Notes and the Deferred Notes is \$25,563,184 at June 30, 1999.

- d. Aggregate maturities of bond, loan, State Loan Notes and Interim Advance Notes principal and interest, net of unamortized deferred issuance costs, are as follows:

Year ending June 30,	Raritan Basin System	Manasquan System	Total
2000	\$ 2,534,182	\$ 3,440,019	\$ 5,974,201
2001	2,532,115	3,439,247	5,971,362
2002	2,530,365	3,438,163	5,968,528
2003	1,758,709	3,436,767	5,195,476
2004	1,755,951	3,435,059	5,191,010
2005-2009	5,545,863	17,191,577	22,737,440
2010-2014		17,186,198	17,186,198
2015-2019		17,189,714	17,189,714
2020-2021		6,873,193	6,873,193
Deferred portion		49,417,702	49,417,702
	16,657,185	125,047,639	141,704,824
Less amounts representing interest	3,001,398	33,485,431	36,486,829
Principal amount due to State of New Jersey	13,655,787	91,562,208	105,217,995
Less current principal portion	1,818,273	956,902	2,775,175
Long-term liability at June 30, 1999	\$11,837,514	\$ 90,605,306	\$102,442,820

6. D & R System Revenue Refunding Bonds, Series 1998

On August 4, 1998, the Authority issued Water System Revenue Refunding Bonds, Series 1998 (the "Refunding Bonds") in the amount of \$28,290,000. The refunding bonds are serial bonds of which \$28,290,000 are outstanding at June 30, 1999 and bear interest at varying rates from 4.5 percent to 5.375 percent and mature in incremental annual principal amount through 2014. Principal maturities for the year ending June 30, 2000 are \$1,345,000. The refunding bonds maturing on or after November 1, 2009 are subject to redemption prior to their stated maturity dates at the option of the Authority, on or after November 1, 2008. The property and revenues of the System are pledged as collateral for the refunding bonds.

The net proceeds of the Refunding Bonds along with available funds were used to purchase U.S. Government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for debt service on the 1988 Bonds to the call date of November 1, 1998 and a call premium of \$550,000 due at that time. Unamortized 1988 bond issuance costs and discount were \$168,000 and \$409,000, respectively, at the date of the refunding.

Although the advance refunding resulted in the deferral of \$1,395,000 of costs at June 30, 1999, the Authority in effect reduced its aggregate debt service payments by almost \$8,108,000 over the next 15 years and obtained an economic gain (difference between the present value of the old and new debt service payments) of \$4,208,000.

For the year ended June 30, 1999, interest expense on the Refunding Bonds amounted to \$1,311,435 and the related interest income earned on the restricted investments amounted to \$133,523.

Aggregate maturities of bond principal and interest, net of unamortized issuance costs, and unamortized deferral are as follows:

Delaware and Raritan 1998 Water Revenue Refunding Bonds

Year ending June 30,	
2000	\$ 2,745,394
2001	2,738,631
2002	2,735,506
2003	2,731,369
2004	2,728,966
2005-2009	13,570,881
2010-2014	13,408,287
	<u>40,659,034</u>
Less amounts representing interest	12,369,034
Principal amount due	28,290,000
Less:	
Current principal portion	1,345,000
Unamortized deferral amount	1,284,313
Plus:	
Unamortized bond premium	785,904
Long-term liability at June 30, 1999	<u>\$26,446,591</u>

7. Employee Benefits

a. 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). The Division of Pensions within the

Notes to Consolidated Financial Statements (continued)

Treasury Department of the State of New Jersey is the administrator of the funds and charges employers annually for their respective contributions. The plans provide retirement and disability benefits, annual cost of living adjustments and benefits to plan members and beneficiaries. The plans are cost sharing multiple-employer defined benefit plans and as such do not maintain separate records for each employer in the state, therefore, the actuarial data for the Authority is not available. The Division of Pensions issues publicly available financial reports for each of the plans that includes financial statements and required supplementary information. The reports may be obtained by writing the State of New Jersey, Division of Pensions.

All Authority full-time employees are required as a condition of employment to be members of PERS. A member may retire on a service retirement allowance as early as age 60; no minimum service is required. The formula for benefits is an annual allowance in the amount equal to years of service, divided by 60, times the final average salary. Final average salary means the average of the salaries received by the member for the last three years of creditable membership service preceding retirement or the highest three fiscal years of membership service, whichever provides the largest benefit. Pension benefits fully vest on reaching 10 years of service. Vested employees who have established 25 years or more of creditable service may retire without penalty at or after age 55 and receive full retirement benefits. The system also provides death and disability benefits. Benefits are established by State statute.

Covered Authority employees are required by PERS to contribute 4.50 percent of their salary. The Authority is required by State statute to contribute the remaining amounts necessary to pay benefits when due. The amount of the Authority's contribution is certified each year by the PERS on the recommendation of the actuary who makes an annual actuarial valuation. The valuation is 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.

The payroll for employees covered by PERS for the years ended June 30, 1999, 1998 and 1997 was \$4,252,303, \$4,128,224 and \$4,210,975, respectively. The Authority's total payroll for the years ended June 30, 1999, 1998 and 1997 was \$4,491,112, \$4,344,426 and \$4,427,732, respectively. The actuarial contribution requirements and the contributions made for the years ended June 30, 1999, 1998 and 1997 were \$193,397, \$197,022 and \$211,816, respectively, which consisted of \$-0-, \$-0- and \$-0- from the Authority, and \$193,397, \$197,022 and \$211,816 from the employees, respectively. The employer and employee contributions represented 0 percent and 4.55 percent of covered payroll for the year ended June 30, 1999, 0 percent and 4.77 percent of covered payroll for the year ended June 30, 1998, and 0 percent and 5.03 percent of covered payroll for the year

ended June 30, 1997. Contributions were made in accordance with the actuarial funding requirement.

b. Post-Retirement Health Care Benefits

The Authority provides continued health care benefits to employees retiring after twenty-five years of service for themselves and eligible dependents. Benefits, contributions, funding and the manner of administration are determined by the State Legislature. The Division of Pensions within the New Jersey Treasury Department administers the funds. Monthly, the Division of Pensions charges the Authority for its contribution. The total number of employees receiving benefits was 26, 25 and 22 at June 30, 1999, June 30, 1998 and June 30, 1997, respectively. Total cost for these post-retirement benefits, included in fringe benefits approximated \$105,295, \$89,628, and \$101,935 for the years ended June 30, 1999, 1998 and 1997, respectively.

8. Major Water Customers

During fiscal year 1999, the Authority supplied water to approximately fifteen customers of the Raritan Basin System and fourteen customers of the Manasquan System.

Two customers accounted for approximately 81 percent of total Raritan Basin System operating revenues. Three customers accounted for approximately 76 percent of total Manasquan System operating revenues.

9. Risk Management

The Authority carries insurance for all of its facilities covering direct physical loss or damage and loss of revenue resulting therefrom, with deductibles as it deems appropriate. The Authority also carries General and Umbrella Public Liability Insurance with 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.

Required Supplementary Information

New Jersey Water Supply Authority

Required Supplementary Information

June 30, 1999

Year 2000 Issue

The Authority and its outside vendors (including governmental entities) each use software that may be affected by the date change in the Year 2000 and recognize that the arrival of the Year 2000 poses challenges that will require modifications to portions of its software to function properly. As the Year 2000 approaches, date sensitive systems may recognize the Year 2000 as 1900 or not all. This may cause systems to fail or to process critical operational information incorrectly, resulting in disruption of operations, including, among other things, a temporary inability to engage in normal business activities.

The Authority has interface systems with third parties (including various State agencies) which could result in Year 2000 issues. The Authority is in the process of communicating with its vendors, suppliers and business partners to determine their current levels of compliance; however, there is no guarantee that the systems of these third parties, or others on which the Authority rely, will be timely converted and will not have an adverse effect on the Authority's operations.

The Authority has completed the awareness, assessment, remediation, and validation/testing stages. The costs of implementing the Year 2000 issues did not have a material adverse impact on the Authority's financial position.

Because of the unprecedented nature of the Year 2000 issue, its effects and success of related remediation efforts will not be fully determinable until the Year 2000 and thereafter. Management cannot assure that the Authority is or will be Year 2000 ready, that the Authority's remediation efforts will be successful in whole or in part, or that parties with whom the Authority does business will be Year 2000 ready.

**Consolidating Statements and Schedules
Supplemental Information**

New Jersey Water Supply Authority
Consolidating Balance Sheet

June 30, 1999

	Raritan Basin System	Manasquan Reservoir System	Elimination Entries	Consolidated Total
Assets				
Utility plant:				
Utility plant in service	\$130,442,726	\$ 92,455,923		\$222,898,649
Less accumulated depreciation	45,912,037	14,365,234		60,277,271
Net utility plant in service	84,530,689	78,090,689		162,621,378
Construction work in progress	4,033,239	169,838		4,203,077
Net utility plant	88,563,928	78,260,527		166,824,455
Current assets:				
Cash	49,729	248,108		297,837
Cash WTP/TS		21,464		21,464
Cash equivalents	12,328,398	4,150,810		16,479,208
Cash equivalents WTP/TS		343,885		343,885
Unbilled sales	1,055,260			1,055,260
Accounts receivable, less allowance for doubtful accounts of \$1,000 for the Raritan Basin System	335,689	1,021,689	\$(91,905)	1,265,473
Interest receivable	15,806	96,413		112,219
Prepaid expenses and other current assets	207,094	35,345		242,439
Inventory WTP/TS		111,102		111,102
Total current assets	13,991,976	6,028,816	(91,905)	19,928,887
Restricted cash equivalents and investments:				
Cash equivalents	609,722			609,722
D & R System Revenue Refunding Bonds, Series 1998, current	6,699,843			6,699,843
Manasquan System-State Loan Notes proceeds, current		2,518,535		2,518,535
Manasquan System-State Loan Notes proceeds, long-term		1,844,651		1,844,651
Total restricted cash equivalents and investments	7,309,565	4,363,186		11,672,751
Long-term investments	3,450,144	845,875		4,296,019
Costs to be recovered from future revenues	1,651,049	17,859,965		19,511,014
Deferred issuance cost	361,781	392,955		754,736
Total assets	\$115,328,443	\$107,751,324	\$(91,905)	\$222,987,862

New Jersey Water Supply Authority
Consolidating Balance Sheet (continued)

June 30, 1999

	Raritan Basin System	Manasquan Reservoir System	Elimination Entries	Consolidated Total
Capitalization and liabilities				
Capitalization:				
Contributed capital	\$ 44,218,123	\$ 7,184,212		\$ 51,402,335
Retained earnings	28,187,512	7,344,160		35,531,672
Total capitalization	72,405,635	14,528,372		86,934,007
Long-term liabilities:				
Due to State of New Jersey including accrued interest of \$25,563,184	11,837,514	90,605,306		102,442,820
D & R System Revenue Refunding Bonds, Series 1998 including unamortized bond premium of \$785,904 and net of unamortized deferral of \$1,284,313	26,446,591			26,446,591
Total long-term liabilities	38,284,105	90,605,306		128,889,411
Current liabilities:				
Current portion of amounts payable to State of New Jersey and principal on bonds	3,163,273	956,902		4,120,175
Accounts payable	263,887	151,497	\$(91,905)	323,479
Accounts payable WTP/TS		71,952		71,952
Accrued payroll and payroll taxes	143,818	48,440		192,258
Accrued vacation	118,151	25,783		143,934
Accrued interest	339,852	1,033,793		1,373,645
Deferred revenue WTP/TS		329,279		329,279
Deferred revenue	609,722			609,722
Total current liabilities	4,638,703	2,617,646	(91,905)	7,164,444
Total liabilities	42,922,808	93,222,952	(91,905)	136,053,855
Total capitalization and liabilities	\$115,328,443	\$107,751,324	\$(91,905)	\$222,987,862

New Jersey Water Supply Authority
Consolidating Statement of Revenues and Expenses
and Changes in Retained Earnings

Year ended June 30, 1999

	Raritan Basin System	Manasquan Reservoir System	Manasquan Water Treatment Plant	Consolidated Total
Operating revenues:				
Water sales	\$13,141,472	\$5,095,926		\$18,237,398
Reimbursement of operating expenses			\$1,316,804	1,316,804
Total operating revenues	13,141,472	5,095,926	1,316,804	19,554,202
Operating expenses:				
Payroll	3,482,231	545,194	463,687	4,491,112
Operations and maintenance (direct)	1,938,717	541,389	587,228	3,067,334
Operations and maintenance (general and administrative)		90,577	50,529	141,106
Fringe benefits	956,266	146,588	125,017	1,227,871
Headquarters overhead	(420,000)	346,000	74,000	
Total operating expenses	5,957,214	1,669,748	1,300,461	8,927,423
Income from operations before depreciation	7,184,258	3,426,178	16,343	10,626,779
Depreciation	3,930,139	1,623,317		5,553,456
Income from operations	3,254,119	1,802,861	16,343	5,073,323
Costs to be recovered from future revenue	140,823	665,802	(32,602)	774,023
Nonoperating revenues:				
Investment income	1,087,735	447,984	16,259	1,551,978
Rental income	49,284	1,494		50,778
Other income	26,254	283		26,537
Total nonoperating revenues	1,163,273	449,761	16,259	1,629,293
Nonoperating expenses:				
Interest component of debt service to the State of New Jersey	2,308,656	2,516,354		4,825,010
Amortization of issuance costs-D&R System Revenue Refunding Bonds, Series 1998	16,728			16,728
Amortization of issuance costs and bond discount - D & R System Revenue Bonds, Series 1988	13,001			13,001
Amortization of issuance costs - Manasquan State Loan Notes		14,100		14,100
Other		1,791		1,791
Total nonoperating expenses	2,338,385	2,532,245		4,870,630
Net income	2,219,830	386,179	-	2,606,009
Retained earnings, beginning of year	25,967,682	6,957,981	-	32,925,663
Retained earnings, end of year	\$28,187,512	\$7,344,160	\$ -	\$35,531,672

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New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

Operating Fund

	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Pumping Reserve
Cash and investments - July 1, 1998	\$4,491	\$26,650	\$20,000	\$2,176,640	\$3,326,612	\$231,617
Cash receipts:						
Water sales operations and maintenance	4,504,085					
Water sales debt service	5,415,526					
Water sales capital fund	1,571,148					
Water sales overdrafts	1,368,712					
Rental income	14,387				175	
Capital improvement program						
Manasquan reservoir support				10,918	28,793	
Headquarters overhead				435,875		
Disposition of property						
Recycling revenue					307	
Nonrefundable bid deposits					1,325	
GHA/Madison						
Workers' Compensation insurance rebate					5,655	
Insurance reimbursement						
Watershed Management Grant						
Miscellaneous expense reimbursement	574	200			1,441	
Proceeds from issuance of Refunding Bonds						
Transfers:						
Contributions from reserve for operations and maintenance						
Contributions from operating fund		3,249,237	2,154,067	(12,379,452)		
Contributions to operating fund				2,123,484		
Transfers for operations	(12,878,920)			10,865,846		
Transfers for debt service						
Distribution from reserves to operations		4,390,002				
Investment income				120,428	245,154	19,580
Per resolution, Section 603:						
Investment income, transfer from	745,068			(119,735)	(242,662)	(19,580)
Investment income, transfer to	(745,068)				588,987	
Unrealized loss on fair value					(50,049)	(6,051)
Total cash receipts	(4,488)	7,639,439	2,154,067	1,057,364	579,126	(6,051)
Total available cash and investments	\$3	\$7,666,089	\$2,174,067	\$3,234,004	\$3,905,738	\$225,566

New Jersey Water Supply Authority

Raritan Basin System

Schedule of Changes in Cash and Investments by Fund (continued)

Year ended June 30, 1999

<u>Self-Insurance Reserve</u>	<u>Depreciation Reserve</u>	<u>Watershed Management Fund</u>	<u>Major Rehabilitation</u>	<u>Capital Improvement Fund</u>	<u>Employment Benefit Funds</u>	<u>Subtotal</u>
\$990,280	\$2,062,253	\$ -	\$1,871,697	\$4,093,835	\$222,864	\$15,026,939
						4,504,085
						5,415,526
						1,571,148
						1,368,712
						14,562
						-
						39,711
						435,875
	27,008					27,008
						307
						1,325
						-
						5,655
						-
		624,950				624,950
						2,215
						-
						-
8,500	200,000			1,585,300	86,850	(5,095,498)
		(26,865)				2,096,619
(45,686)					(150,761)	(2,209,521)
						-
	(36,511)		(10,729)	(2,032,963)	(20,734)	2,289,065
81,408	119,774	11,637	95,299	196,719	8,657	898,656
						259,851
(81,435)	(21,805)					(1,982)
	21,805			132,294		(87,726)
(24,888)	(6,738)					
(62,101)	303,533	609,722	84,570	(118,650)	(75,988)	12,160,543
\$928,179	\$2,365,786	\$609,722	\$1,956,267	\$3,975,185	\$146,876	\$27,187,482

New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	Subtotal	1988 Bonds Debt Service Account	1988 Bonds Debt Service Reserve	1998 Bonds Debt Service Account	1998 Bonds Debt Service Reserve
Cash and investments - July 1, 1998	\$15,026,939	\$538,832	\$2,730,350	\$ -	\$ -
Cash receipts:					
Water sales operations and maintenance	4,504,085				
Water sales debt service	5,415,526				
Water sales capital fund	1,571,148				
Water sales overdrafts	1,368,712				
Rental income	14,562				
Capital improvement program	-				
Manasquan reservoir support	39,711				
Headquarters overhead	435,875				
Disposition of property	27,008				
Recycling revenue	307				
Nonrefundable bid deposits	1,325				
GHA/Madison	-				
Workers' Compensation insurance rebate	5,655				
Insurance reimbursement	-				
Watershed Management Grant	624,950				
Miscellaneous expense reimbursement	2,215				
Proceeds from issuance of Refunding Bonds				29,112,241	
Transfers:					
Contributions from reserve for operations and maintenance	-				
Contributions from operating fund	(5,095,498)	505,000		1,754,800	
Contributions to operating fund	2,096,619				
Transfers for operations	(2,209,521)				
Transfers for debt service	-	(1,049,629)	(2,749,249)	1,053,484	2,745,394
Distribution from reserves to operations	2,289,065	(582)	(1,509)	2,092	
Investment income	898,656	6,379	20,408	34,907	104,037
Per resolution, Section 603:					
Investment income, transfer from	259,851			(32,265)	(101,326)
Investment income, transfer to	(1,982)			1,982	
Unrealized loss on fair value	(87,726)				
Total cash receipts	12,160,543	(538,832)	(2,730,350)	31,927,241	2,748,105
Total available cash and investments	\$27,187,482	\$ -	\$ -	\$31,927,241	\$2,748,105

New Jersey Water Supply Authority

Raritan Basin System

Schedule of Changes in Cash and Investments by Fund (continued)

Year ended June 30, 1999

1969 Debt Service Fund	1981 Debt Service Fund	Rate Stabilization Fund	1969 Debt Service Reserve	Totals
\$2,664	\$486,215	\$2,101,079	\$184,241	\$21,070,320
				4,504,085
				5,415,526
				1,571,148
				1,368,712
				14,562
				-
				39,711
				435,875
				27,008
				307
				1,325
				-
				5,655
				-
				624,950
				2,215
				29,112,241
				-
770,000	1,519,066	546,632		-
		(2,096,619)		-
		2,209,521		-
				-
(770,000)	(1,519,066)			-
7,849	25,739	79,203	15,575	1,192,753
(7,730)	(26,368)	(76,587)	(15,575)	-
				-
			(4,813)	(92,539)
119	(629)	662,150	(4,813)	44,223,534
\$2,783	\$485,586	\$2,763,229	\$179,428	\$65,293,854

New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	Operating Fund					
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M	Pumping Reserve
Total available cash and investments	\$3	\$7,666,089	\$2,174,067	\$3,234,004	\$3,905,738	\$225,566
Cash disbursements:						
Payroll			2,154,067			
Fringe benefits		774,231		1,042,046	(60)	
Employee deferred comp. and credit union		303,479		152,292		
Operations and maintenance		1,690,433			(61,713)	
Prepaid insurance		322,357				
Miscellaneous disbursements		728				
Watershed Management		20,248				
Capital improvements:						
Capital assets		216,991				
Major rehabilitation						
New five year construction project		2,018,063				
Issuance expenses		1,075			(3,455)	
Principal on 1969 bonds		632,112				
Interest on 1969 bonds		137,888				
Principal on 1981 bonds		851,000				
Interest on 1981 bonds		668,065				
Defeasance of 1988 revenue bonds						
Interest on 1988 revenue bonds						
Interest on 1998 revenue bonds						
Total cash disbursements	-	7,636,670	2,154,067	1,194,338	(65,228)	-
Cash and investments - June 30, 1999	\$3	\$29,419	\$20,000	\$2,039,666	\$3,970,966	\$225,566
Summary of cash and investments:						
Cash	\$3	\$29,419	\$20,000			
Short-term investments				\$2,039,666	\$2,104,914	
Long-term investments					1,866,052	\$225,566
Restricted Investments (current)						
Restricted Investments (long-term)						
Total cash and investments	\$3	\$29,419	\$20,000	\$2,039,666	\$3,970,966	\$225,566

New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund (continued)
Year ended June 30, 1999

Self-Insurance Reserve	Depreciation Reserve	Watershed Management Fund	Major Rehabilitation	Capital Improvement Fund	Employment Benefit Funds	Subtotal
\$928,179	\$2,365,786	\$609,722	\$1,956,267	\$3,975,185	\$146,876	\$27,187,482
						2,154,067
					9,069	1,825,286
						455,771
						1,628,720
						322,357
						728
						20,248
						216,991
						-
						2,018,063
						(2,380)
						632,112
						137,888
						851,000
						668,065
						-
						-
						-
					9,069	10,928,916
\$928,179	\$2,365,786	\$609,722	\$1,956,267	\$3,975,185	\$137,807	\$16,258,566
						\$307
\$280	\$2,114,587	\$609,722	\$1,956,267	\$3,975,185	137,500	12,938,121
927,899	251,199					3,270,716
						-
						-
\$928,179	\$2,365,786	\$609,722	\$1,956,267	\$3,975,185	\$137,807	\$16,258,566

New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	<u>Subtotal</u>	<u>1988 Bonds Debt Service Account</u>	<u>1988 Bonds Debt Service Reserve</u>	<u>1998 Bonds Debt Service Account</u>	<u>1998 Bonds Debt Service Reserve</u>
Total available cash and investments	\$27,187,482	\$ -	\$ -	\$31,927,241	\$2,748,105
Cash disbursements:					
Payroll	2,154,067				
Fringe benefits	1,825,286				
Employee deferred comp. and credit union	455,771				
Operations and maintenance	1,628,720				
Prepaid insurance	322,357				
Miscellaneous disbursements	728				
Watershed management	20,248				
Capital improvements:					
Capital assets	216,991				
Major rehabilitation	-				
New five year construction project	2,018,063				
Issuance expenses	(2,380)			379,365	
Principal on 1969 bonds	632,112				
Interest on 1969 bonds	137,888				
Principal on 1981 bonds	851,000				
Interest on 1981 bonds	668,065				
Defeasance of 1988 revenue bonds	-			29,774,744	
Interest on 1988 revenue bonds	-				
Interest on 1998 revenue bonds	-			1,072,992	
Total cash disbursements	<u>10,928,916</u>	-	-	<u>31,227,101</u>	-
Cash and investments - June 30, 1999	<u>\$16,258,566</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$700,140</u>	<u>\$2,748,105</u>
Summary of cash and investments:					
Cash	\$49,729				
Short-term investments	12,938,121				
Long-term investments	3,270,716				
Restricted Investments (current)	-	\$ -	\$ -	\$700,140	\$2,748,105
Restricted Investments (long-term)	-				
Total cash and investments	<u>\$16,258,566</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$700,140</u>	<u>\$2,748,105</u>

New Jersey Water Supply Authority
Raritan Basin System
Schedule of Changes in Cash and Investments by Fund (continued)
Year ended June 30, 1999

1969 Debt Service Fund	1981 Debt Service Fund	Rate Stabilization Fund	1969 Debt Service Reserve	Totals
\$2,783	\$485,586	\$2,763,229	\$179,428	\$65,293,854
				2,154,067
				1,825,286
				455,771
				1,628,720
				322,357
				728
				20,248
				216,991
				-
				2,018,063
				376,985
				632,112
				137,888
				851,000
				668,065
				29,774,744
				-
				1,072,992
				42,156,017
\$2,783	\$485,586	\$2,763,229	\$179,428	\$23,137,837
				\$49,729
				12,938,121
			\$179,428	3,450,144
\$2,783	\$485,586	\$2,763,229		6,699,843
				-
\$2,783	\$485,586	\$2,763,229	\$179,428	\$23,137,837

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	Operating Fund				Reserve for O&M
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	
Cash and investments - July 1, 1998	\$55,698	\$20,663	\$20,000	\$243,593	\$1,388,125
Cash receipts:					
Water sales operations and maintenance	1,822,720				
Water sales debt service	3,558,189				
Water sales overdrafts	24,439				
Receipt of WTP/TS reimbursement	1,478			(10,918)	
NJ-American pumping costs	10,374				126,310
Reimbursement of WTP capital expenses					
Disposition of assets					
Reimbursement from Raritan Basin					
Nonrefundable bid deposits					50
Workers' Compensation insurance rebate					474
Miscellaneous reimbursement					10
Transfers:					
Contributions from reserve for operations & maintenance				475,000	(475,000)
Contributions from operating fund		2,419,000	656,773	(7,099,517)	
Contributions to operating fund				951,769	
Transfers for operations	(5,262,186)			4,884,961	
Distribution from reserves to operations		140,795		(90)	
Investment income				12,888	75,677
Investment income, transfer from	163,481			(12,951)	(75,257)
Investment income, transfer to	(163,481)			90,056	73,425
Unrealized gain/(loss) on fair value					(12,649)
Total cash receipts	<u>155,014</u>	<u>2,559,795</u>	<u>656,773</u>	<u>(708,802)</u>	<u>(286,960)</u>
Total cash and investments	<u>\$210,712</u>	<u>\$2,580,458</u>	<u>\$676,773</u>	<u>(\$465,209)</u>	<u>\$1,101,165</u>

New Jersey Water Supply Authority

Manasquan Water Supply System

Schedule of Changes in Cash and Investments by Fund (continued)

Year ended June 30, 1999

Self- Insurance Reserve	Renewal and Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Subtotal
\$256,100	\$1,789,049	\$451,025	\$97,695	\$97,866	\$4,419,814
					1,822,720
					3,558,189
					24,439
					(9,440)
					136,684
					-
		(1,791)			(1,791)
					-
					50
					474
					10
					-
	120,000	40,000			(3,863,744)
					951,769
(3,665)					(380,890)
	(135,771)				4,934
21,067	93,104	27,236	6,526	4,904	241,402
(21,066)		(8,010)	(6,507)	(4,867)	34,823
					-
(6,326)		(2,475)	(1,238)		(22,688)
(9,990)	77,333	54,960	(1,219)	37	2,496,941
<u>\$246,110</u>	<u>\$1,866,382</u>	<u>\$505,985</u>	<u>\$96,476</u>	<u>\$97,903</u>	<u>\$6,916,755</u>

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	Water Treatment Plant/Transmission System				
	Subtotal	Operating Account	Operating Fund	Residuals Reserve	Carbon Filter Reserve
Cash and investments - July 1, 1998	\$4,419,814	\$24,825	\$126,096	\$89,882	\$123,709
Cash receipts:					
Water sales operations and maintenance	1,822,720				
Water sales debt service	3,558,189				
Water sales overdrafts	24,439				
Receipt of WTP/TS reimbursement	(9,440)		1,316,804		
NJ-American pumping costs	136,684				
Reimbursement of WTP capital expenses	-		209,241		
Disposition of assets	(1,791)		2,016		
Reimbursement from Raritan Basin	-				
Nonrefundable bid deposits	50				
Workers' Compensation insurance rebate	474		355		
Miscellaneous reimbursement	10				
Transfers:					
Contributions from reserve for operations & maintenance	-				
Contributions from operating fund	(3,863,744)	830,000	(830,000)		
Contributions to operating fund	951,769		(636,477)		
Transfers for operations	(380,890)				
Distribution from reserves to operations	4,934		60,000	(60,000)	
Investment income	241,402		7,772	2,329	6,158
Investment income, transfer from	34,823		10,600	(4,066)	(6,534)
Investment income, transfer to	-				
Unrealized gain/(loss) on fair value	(22,688)				
Total cash receipts	2,496,941	830,000	140,311	(61,737)	(376)
Total cash and investments	\$6,916,755	\$854,825	\$266,407	\$28,145	\$123,333

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund (continued)
Year ended June 30, 1999

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Rebate Fund	General Reserve Fund	Employment Benefit Funds	Totals
\$2,256,937	\$1,896,502	\$102,319	\$315,523	\$66,277	\$9,421,884
					1,822,720
					3,558,189
					24,439
					1,307,364
					136,684
					209,241
					225
					-
					50
					829
					10
					-
3,350,763			488,945	24,036	-
			(315,292)		-
			403,872	(22,982)	-
				(4,934)	-
79,308	158,780	5,225	35,579	3,146	539,699
158,780	(158,780)		(34,823)		-
					-
541	(51,368)				(73,515)
3,589,392	(51,368)	5,225	578,281	(734)	7,525,935
\$5,846,329	\$1,845,134	\$107,544	\$893,804	\$65,543	\$16,947,819

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund
Year ended June 30, 1999

	Operating Fund				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Total available cash and investments	\$210,712	\$2,580,458	\$676,773	(\$465,209)	\$1,101,165
Cash disbursements:					
Payroll			656,773		
Fringe benefits		1,559,352		(1,042,045)	
Employee deferred comp. and credit union				90,190	
Operations and maintenance		642,858			
NJ-American pumping costs		142,932			
Prepaid insurance		44,353			
Headquarters overhead				361,875	
Capital assets reservoir		41,037			
Capital improvement program (reservoir)		131,665			
Capital assets water treatment plant		2,016			
Miscellaneous disbursements					
Refinancing fees					
Principal on 1981 bonds					
Interest on 1981 bonds					
Total cash disbursements	-	2,564,213	656,773	(589,980)	-
Cash and investments - June 30, 1999	\$210,712	\$16,245	\$20,000	\$124,771	\$1,101,165
Summary of cash and investments:					
Cash (Manasquan)	\$210,712	\$16,245	\$20,000		
Cash (Water Treatment Plant/TS)					
Short-term investments				\$124,771	\$629,524
Short-Term investments (WTP/TS)					
Long-term investments					471,641
Restricted investments (current)					
Restricted investments (long-term)					
Total cash and investments	\$210,712	\$16,245	\$20,000	\$124,771	\$1,101,165

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund (continued)
Year ended June 30, 1999

Self- Insurance Reserve	Renewal and Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Subtotal
\$246,110	\$1,866,382	\$505,985	\$96,476	\$97,903	\$6,916,755
					656,773
					517,307
					90,190
					642,858
					142,932
					44,353
					361,875
					41,037
					131,665
					2,016
					-
					-
					-
					-
					2,631,006
\$246,110	\$1,866,382	\$505,985	\$96,476	\$97,903	\$4,285,749
					\$246,957
					-
\$10,291	\$1,866,382	\$413,708	\$50,338	\$97,903	3,192,917
					-
235,819		92,277	46,138		845,875
					-
					-
\$246,110	\$1,866,382	\$505,985	\$96,476	\$97,903	\$4,285,749

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund

Year ended June 30, 1999

	Water Treatment Plant/Transmission System				
	Subtotal	Operating Account	Operating Fund	Residuals Reserve	Carbon Filter Reserve
Total available cash and investments	\$6,916,755	\$854,825	\$266,407	\$28,145	\$123,333
Cash disbursements:					
Payroll	656,773				
Fringe benefits	517,307				
Employee deferred comp. and credit union	90,190				
Operations and maintenance	642,858	600,180			
NJ-American pumping costs	142,932				
Prepaid insurance	44,353				
Headquarters overhead	361,875		74,000		
Capital assets reservoir	41,037				
Capital improvement program (reservoir)	131,665				
Capital assets water treatment plant	2,016	233,181			
Miscellaneous disbursements	-				
Refinancing fees	-				
Principal on 1981 bonds	-				
Interest on 1981 bonds	-				
Total cash disbursements	2,631,006	833,361	74,000	-	-
Cash and investments - June 30, 1999	\$4,285,749	\$21,464	\$192,407	\$28,145	\$123,333
Summary of cash and investments:					
Cash (Manasquan)	\$246,957				
Cash (Water Treatment Plant/TS)	-	\$21,464			
Short-term investments	3,192,917				
Short-Term investments (WTP/TS)	-		\$192,407	\$28,145	\$123,333
Long-term investments	845,875				
Restricted investments (current)	-				
Restricted investments (long-term)	-				
Total cash and investments	\$4,285,749	\$21,464	\$192,407	\$28,145	\$123,333

New Jersey Water Supply Authority
Manasquan Water Supply System
Schedule of Changes in Cash and Investments by Fund (continued)
Year ended June 30, 1999

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Rebate Fund	General Reserve Fund	Employment Benefit Funds	Totals
\$5,846,329	\$1,845,134	\$107,544	\$893,804	\$65,543	\$16,947,819
					656,773
				800	518,107
					90,190
					1,243,038
					142,932
					44,353
					435,875
					41,037
					131,665
					235,197
					-
					-
896,976					896,976
2,538,348					2,538,348
3,435,324	-	-	-	800	6,974,491
\$2,411,005	\$1,845,134	\$107,544	\$893,804	\$64,743	\$9,973,328
					\$248,108
\$14	\$483			\$654	21,464
			\$893,804	64,089	4,150,810
					343,885
					845,875
2,410,991		\$107,544			2,518,535
	1,844,651				1,844,651
\$2,411,005	\$1,845,134	\$107,544	\$893,804	\$64,743	\$9,973,328

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Statistical Section

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Raritan Basin System Water Rates	1983 - 1999
Manasquan Water Supply System Water Rates	1990 - 1999
Spruce Run Rain Gage	1990 - 1999
West Windsor Rain Gage	1990 - 1999
Spruce Run Reservoir Storage	1990 - 1999
Round Valley Reservoir Storage	1990 - 1999
Manasquan Reservoir Rainfall	1990 - 1999
Manasquan Reservoir Storage Data.....	1990 - 1999

New Jersey Water Supply Authority
SUMMARY OF FINANCIAL INFORMATION 1990 - 1999

REVENUE AND EXPENSES	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Operating revenue	\$10,283,279	\$17,865,600	\$18,854,274	\$19,739,401	\$20,750,036
Operating expense	<u>5,354,800</u>	<u>7,468,949</u>	<u>8,716,079</u>	<u>9,041,977</u>	<u>9,150,905</u>
Income from operations before depreciation	4,928,479	10,396,651	10,138,195	10,697,424	11,599,131
Depreciation expense	<u>2,070,557</u>	<u>3,826,536</u>	<u>4,483,649</u>	<u>4,378,819</u>	<u>4,769,187</u>
Income from operations	2,857,922	6,570,115	5,654,546	6,318,605	6,829,944
Costs to be recovered from future revenues	1,165,880	2,547,597	2,786,073	2,676,749	2,383,069
Nonoperating revenues	664,823	836,466	971,185	674,872	(542,296)
Nonoperating expenses	<u>1,751,321</u>	<u>4,771,544</u>	<u>5,274,722</u>	<u>5,595,886</u>	<u>5,808,771</u>
Net income	2,937,304	5,182,634	4,137,082	4,074,340	2,861,946
Retained earnings beginning of year	<u>10,305,043</u>	<u>13,242,347</u>	<u>18,424,981</u>	<u>22,562,063</u>	<u>26,636,403</u>
Retained earnings end of year	\$13,242,347	\$18,424,981	\$22,562,063	\$26,636,403	\$29,498,349
ASSETS					
Net utility plant	167,741,197	173,001,674	175,573,410	176,975,727	179,995,711
Current assets	8,618,354	11,249,856	12,367,127	11,789,475	13,044,745
Restricted investments and other assets	<u>35,617,719</u>	<u>36,050,120</u>	<u>38,289,850</u>	<u>42,612,624</u>	<u>38,500,313</u>
Total assets	\$211,977,270	\$220,301,650	\$226,230,387	\$231,377,826	\$231,540,769
CAPITALIZATION AND LIABILITIES					
Total capitalization	61,707,378	69,857,316	73,964,398	78,038,738	80,900,684
Long term liabilities	138,108,629	145,485,634	146,175,912	146,140,716	143,992,735
Current liabilities	<u>5,553,819</u>	<u>4,988,700</u>	<u>6,090,077</u>	<u>7,198,372</u>	<u>6,647,350</u>
Total capitalization and liabilities	\$205,369,826	\$220,331,650	\$226,230,387	\$231,377,826	\$231,540,769

New Jersey Water Supply Authority
SUMMARY OF FINANCIAL INFORMATION 1990 - 1999

1995	1996	1997	1998	1999
\$21,316,171	\$21,138,739	\$19,689,581	\$19,795,670	\$19,554,202
9,349,446	9,364,864	9,039,373	8,571,774	8,927,423
11,966,725	11,773,875	10,650,208	11,223,896	10,626,779
5,070,009	5,372,317	5,556,324	5,561,782	5,553,456
6,896,716	6,401,558	5,093,884	5,662,114	5,073,323
2,452,558	2,898,833	989,731	1,111,458	774,023
4,047,594	1,640,593	1,732,570	2,003,192	1,629,293
6,189,365	6,584,621	6,652,185	6,515,052	4,870,630
7,207,503	4,356,363	1,164,000	2,261,712	2,606,009
29,498,349	36,705,852	29,499,951	30,663,951	32,925,663
\$36,705,852	\$41,062,215	\$30,663,951	\$32,925,663	\$35,531,672
179,880,192	176,797,558	173,574,882	169,983,775	166,824,455
16,030,402	17,970,349	17,275,932	18,755,296	19,928,887
40,703,654	42,925,761	33,344,691	34,064,861	36,234,520
\$236,614,248	\$237,693,668	\$224,195,505	\$222,803,932	\$222,987,862
88,108,188	92,464,550	82,066,286	84,327,998	86,934,007
142,292,791	139,034,247	135,879,609	132,545,681	128,889,411
6,213,269	6,194,871	6,249,610	5,930,253	7,164,444
\$236,614,248	\$237,693,668	\$224,195,505	\$222,803,932	\$222,987,862

**New Jersey Water Supply Authority
 RARITAN BASIN SYSTEM
 SUMMARY OF WATER USE CONTRACTS
 MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>WATER USER</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
UNITED WATER LAMBERTVILLE, INC	0.200	0.200	0.200	0.200	0.200
MERCER COUNTY PARK COMMISSION	0.100	0.100	0.100	0.100	0.100
TRENTON COUNTRY CLUB	0.250	0.250	0.250	0.250	0.250
VACCARO BROTHERS	0.200	0.200	0.200	0.200	0.050
MERCER COUNTY PARK COMMISSION	0.135	0.135	0.135	0.135	0.135
PRINCETON UNIVERSITY	1.000	1.000	1.000	1.000	1.000
PRINCETON NURSERIES	0.300	0.300	0.300	0.300	0.300
NORTH BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
SELODY SOD FARMS, INC.	0.100	0.100	0.100	0.100	0.100
ELIZABETHTOWN WATER COMPANY	102.000	102.000	102.000	102.000	102.000
UNION CARBIDE CORPORATION					
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
JOHNSON & JOHNSON CORPORATION	2.326	2.326	2.326	2.326	0.500
MIDDLESEX WATER COMPANY	20.000	20.000	20.000	20.000	20.000
ETHYL CORPORATION					
TREDEGAR INDUSTRIES	0.012	0.012	0.012	0.012	
FLEMINGTON FILM PRODUCTS					0.012
SYSTEM TOTAL	153.123	153.123	153.123	153.123	151.147

**New Jersey Water Supply Authority
 RARITAN BASIN SYSTEM
 SUMMARY OF WATER USE CONTRACTS
 MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
0.200	0.200	0.200	0.200	0.200
0.100	0.100	0.100	0.100	0.100
0.250	0.250	0.250	0.250	0.250
0.050	0.050	0.000	0.000	0.000
0.135	0.135	0.135	0.135	0.135
1.000	1.000	0.500	0.500	0.500
0.300	0.300	0.000	0.000	0.000
8.000	8.000	8.000	8.000	8.000
0.100	0.100	0.100	0.100	0.100
102.000	102.000	102.000	102.000	102.000
8.000	8.000	8.000	8.000	8.000
10.500	10.500	10.500	10.500	10.500
0.500	0.500	0.500	0.000	0.000
20.000	20.000	20.000	20.000	20.000
<u>0.012</u>	<u>0.012</u>	<u>0.012</u>	<u>0.012</u>	<u>0.012</u>
151.147	151.147	150.297	149.797	149.797

**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SUMMARY OF WATER USE CONTRACTS
MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>WATER USER</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
WALL TOWNSHIP	2.300	2.300	2.300	2.300	2.300
BOROUGH OF AVON	0.142	0.142	0.142	0.142	0.142
SHORELANDS WATER COMPANY	1.900	1.900	1.900	1.900	1.900
NEW JERSEY-AMERICAN WATER CO.	5.400	5.715	6.215	6.305	7.035
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	0.310	0.310	0.310	0.310	0.310
BOROUGH OF SPRING LAKE HEIGHTS	0.450	0.450	0.450	0.450	0.450
BOROUGH OF UNION BEACH	0.500	0.500			
BOROUGH OF BELMAR	0.750	0.650	0.650	0.650	0.650
HOWELL TOWNSHIP MUA	1.130	1.130			
HOWELL TOWNSHIP			1.130	1.130	0.730
BOROUGH OF BRIELLE	0.400	0.400	0.400	0.400	0.400
BOROUGH OF HIGHLANDS	0.330	0.330	0.330	0.330	
ABERDEEN TOWNSHIP MUA	0.315				
ADELPHIA WATER COMPANY	0.300	0.300	0.300	0.300	0.300
BOROUGH OF ALLENHURST	0.090	0.090	0.090		
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 SOUTH BELMAR		0.100	0.100	0.100	0.100
	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>

NOTE: The Manasquan System started operations JULY 1,1990.

**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SUMMARY OF WATER USE CONTRACTS
MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
2.300	2.300	2.300	2.300	2.300
0.142	0.142	0.142	0.142	0.142
1.900	1.900	1.900	1.900	1.900
7.035	7.035	7.765	8.065	8.065
0.778	0.778	0.778	0.778	0.778
0.075	0.075	0.075	0.075	0.075
0.310	0.310	0.310	0.310	0.310
0.450	0.450	0.450	0.450	0.450
0.650	0.650	0.650	0.650	0.650
0.730	0.730			
0.400	0.400	0.400	0.400	0.400
0.300	0.300	0.300	0.000	0.000
0.458	0.458	0.458	0.458	0.458
0.469	0.469	0.469	0.469	0.469
0.100	0.100	0.100	0.100	0.100
<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>

**NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM**

**SERIES 1988, D & R SYSTEM REVENUE BOND COVERAGE*
SERIES 1998, D & R SYSTEM REVENUE REFUNDING BOND COVERAGE**

<u>Fiscal Year</u>	<u>Gross Revenue</u>	<u>Operating Expenses</u>	<u>Net Revenue Available for Debt Service</u>	<u>Debt Service Payments</u>	<u>Coverage</u>
1999	\$14,073,166	\$8,433,100	\$5,640,066	\$3,151,000	1.79
1998	\$14,402,400	\$8,433,400	\$5,969,000	\$3,150,000	1.89
1997	\$13,804,500	\$7,829,500	\$5,975,000	\$3,160,000	1.89
1996	\$13,747,250	\$7,697,050	\$6,050,200	\$3,160,000	1.91
1995	\$13,703,700	\$7,754,700	\$5,949,000	\$3,162,000	1.88
1994	\$12,764,300	\$6,815,300	\$5,949,000	\$3,162,000	1.88
1993	\$12,153,357	\$6,915,198	\$5,238,159	\$2,500,000	2.10
1992	\$11,959,554	\$6,743,413	\$5,216,141	\$2,500,000	2.09
1991	\$11,326,150	\$6,106,010	\$5,220,140	\$2,500,000	2.09
1990	\$10,471,420	\$5,966,000	\$4,505,420	\$1,249,659	3.61

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. Revenue bond coverage information prior to the year ended June 30, 1990 is not available.

* 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>7/1/83</u>	<u>10/1/85</u>	<u>7/1/86</u>	<u>7/1/88</u>	<u>7/1/89</u>	<u>7/1/90</u>	<u>7/1/91</u>	<u>7/1/92</u>	<u>7/1/93</u>
RATE PER MGD	\$105.39	\$147.37	\$152.17	\$152.12	\$187.56	\$188.60	\$201.33	\$214.86	\$220.47

<u>EFFECTIVE DATE</u>	<u>7/1/94</u>	<u>7/1/95</u>	<u>7/1/96</u>	<u>7/1/97</u>	<u>7/1/98</u>	<u>7/1/99</u>
RATE PER MGD	\$229.50	\$220.78	\$211.16	\$211.16	\$211.16	\$205.00

**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
WATER CHARGES PER MILLION GALLONS OF RAW WATER DAILY**

<u>EFFECTIVE DATE</u>	<u>7/01/90</u>	<u>2/01/91</u>	<u>7/01/91</u>	<u>2/01/92</u>	<u>7/01/92</u>	<u>2/01/93</u>	<u>7/01/93</u>	<u>2/01/94</u>
RATE PER MGD	\$1,000.00	\$1,032.75	\$1,000.86	\$1,033.53	\$1,054.27	\$1,086.67	\$1,064.33	\$1,096.75

<u>EFFECTIVE DATE</u>	<u>7/01/94</u>	<u>7/01/95</u>	<u>7/01/96</u>	<u>7/01/97</u>	<u>7/01/98</u>	<u>7/01/99</u>
RATE PER MGD	\$1,114.98	\$1,105.47	\$1,065.15	\$938.92	\$832.92	\$695.31

NOTE: The Manasquan System started operations JULY 1, 1990.

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SPRUCE RUN RAIN GAGE (INCHES)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1999	6.00	2.90	4.20	2.60	1.80	0.50	0.20	3.60	10.60	3.70	2.70	2.00	40.80
1998	3.70	4.50	3.60	5.20	5.60	3.60	1.40	4.20	2.50	3.50	1.20	0.80	39.80
1997	3.20	1.60	2.80	2.40	3.00	2.30	6.90	4.10	1.70	1.70	3.20	3.80	36.70
1996	6.00	1.50	3.90	5.50	2.40	5.50	8.00	1.40	4.20	8.10	3.70	8.20	58.40
1995	3.00	2.50	1.40	1.90	2.10	2.50	5.20	1.00	4.40	11.00	4.30	2.30	41.60
1994	5.30	2.70	4.80	2.20	3.20	6.00	3.00	3.60	1.80	1.30	3.50	2.70	40.10
1993	2.30	3.50	7.20	4.30	1.70	2.40	1.60	3.20	5.70	3.00	3.50	4.90	43.30
1992	2.10	1.60	3.60	1.30	2.70	4.10	4.80	3.50	3.00	2.00	6.60	4.70	40.00
1991	3.40	1.40	4.10	3.40	3.70	2.60	3.30	2.30	5.40	2.10	2.00	3.50	37.20
1990	4.70	2.10	2.10	2.20	7.00	6.30	4.10	7.10	1.70	5.80	3.10	6.20	52.40
TOTAL	39.70	24.30	37.70	31.00	33.20	35.80	38.50	34.00	41.00	42.20	33.80	39.10	430.30
AVERAGE	3.97	2.43	3.77	3.10	3.32	3.58	3.85	3.40	4.10	4.22	3.38	3.91	43.03
MAXIMUM	6.00	4.50	7.20	5.50	7.00	6.30	8.00	7.10	10.60	11.00	6.60	8.20	58.40
MINIMUM	2.10	1.40	1.40	1.30	1.70	0.50	0.20	1.00	1.70	1.30	1.20	0.80	36.70

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
WEST WINDSOR RAIN GAGE (INCHES)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1999	7.60	3.50	4.20	2.20	3.30	0.60	1.00	6.80	11.00	3.60	2.00	3.70	49.50
1998	4.70	3.30	5.50	3.80	8.00	4.90	1.80	3.50	1.90	1.50	1.40	1.10	41.40
1997	3.70	2.60	1.60	3.50	3.50	2.50	5.70	1.80	1.30	1.80	3.00	3.90	34.90
1996	5.40	1.10	4.30	4.50	1.60	8.20	7.40	3.00	5.60	6.00	2.70	7.50	57.30
1995	2.60	2.60	1.40	1.40	1.80	0.20	1.90	1.20	4.90	5.00	4.40	2.30	29.70
1994	6.80	3.10	8.10	3.50	3.90	4.50	6.10	5.80	2.70	0.70	3.70	2.80	51.70
1993	2.30	2.20	8.30	4.40	1.50	2.90	4.70	3.10	9.50	4.60	2.30	4.40	50.20
1992	2.00	1.50	2.80	1.50	2.90	6.20	3.40	3.00	2.80	1.40	4.50	7.20	39.20
1991	3.80	1.10	5.10	4.20	2.00	3.40	5.90	4.90	5.10	1.90	2.30	2.90	42.60
1990	4.10	1.70	2.50	3.80	7.90	3.10	4.10	7.00	2.30	3.20	1.50	3.90	45.10
TOTAL	43.00	22.70	43.80	32.80	36.40	36.50	42.00	40.10	47.10	29.70	27.80	39.70	441.60
AVERAGE	4.30	2.27	4.38	3.28	3.64	3.65	4.20	4.01	4.71	2.97	2.78	3.97	44.16
MAXIMUM	7.60	3.50	8.30	4.50	8.00	8.20	7.40	7.00	11.00	6.00	4.50	7.50	57.30
MINIMUM	2.00	1.10	1.40	1.40	1.50	0.20	1.00	1.20	1.30	0.70	1.40	1.10	29.70

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SPRUCE RUN RESERVOIR STORAGE
BILLION GALLONS**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1999	3.7	5.5	6.4	8.2	9.4	9.9	8.1	7.4	6.6	8.2	8.7	9.9
1998	5.6	6.9	8.6	10.7	11.0	11.0	11.0	9.2	6.4	4.3	3.9	3.9
1997	11.0	10.9	11.0	11.0	11.0	11.0	10.3	9.1	8.0	6.5	4.6	5.0
1996	8.9	11.0	10.7	11.1	11.2	11.0	11.0	11.0	10.3	9.9	10.6	11.0
1995	9.1	9.9	9.1	10.6	11.0	10.9	9.5	7.9	5.0	4.5	6.8	9.0
1994	7.5	7.4	7.8	11.1	11.0	10.8	10.9	10.7	10.5	9.7	8.4	8.3
1993	10.5	10.5	10.6	11.2	10.8	10.6	10.0	7.7	5.7	4.9	4.9	5.7
1992	6.0	6.2	6.0	7.2	8.0	8.4	9.6	10.1	10.1	9.5	8.6	10.1
1991	11.1	11.0	11.0	11.0	11.0	11.0	10.5	9.5	7.8	6.4	5.7	5.6
1990	4.2	6.1	7.6	8.6	9.6	11.0	11.0	11.0	11.0	11.0	11.0	11.0
AVERAGE	7.8	8.5	8.9	10.1	10.4	10.6	10.2	9.4	8.1	7.5	7.3	8.0
MAXIMUM	11.1	11.0	11.0	11.2	11.2	11.0	11.0	11.0	11.0	11.0	11.0	11.0
MINIMUM	3.7	5.5	6.0	7.2	8.0	8.4	8.1	7.4	5.0	4.3	3.9	3.9

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
1999	49.4	49.6	49.8	50.0	50.1	50.2	49.8	44.7	42.3	43.1	43.1	43.0
1998	54.4	54.6	54.8	54.8	55.1	54.4	54.6	54.4	54.4	54.4	52.8	51.1
1997	54.3	54.4	54.5	54.9	55.0	54.5	54.6	54.7	54.7	54.6	54.4	54.3
1996	51.3	51.8	51.9	52.1	52.6	52.8	53.1	53.4	53.2	53.3	53.6	53.7
1995	53.2	53.2	53.3	54.2	54.6	54.7	54.5	54.5	53.3	50.9	51.2	51.3
1994	51.9	52.5	52.2	53.1	53.4	53.5	53.7	53.7	53.8	53.5	53.2	53.2
1993	52.2	52.2	52.4	53.1	53.9	54.0	54.0	52.8	52.2	51.8	51.8	51.8
1992	51.0	51.0	51.0	51.1	51.6	52.0	52.0	52.1	52.1	52.0	51.9	52.1
1991	51.2	51.4	51.5	51.7	52.0	52.1	52.0	52.0	51.9	51.9	51.6	51.0
1990	51.9	52.1	52.2	52.4	52.6	53.2	53.3	51.6	51.3	50.8	51.0	50.9
AVERAGE	52.08	52.28	52.36	52.74	53.09	53.14	53.16	52.39	51.92	51.63	51.46	51.24
MAXIMUM	54.4	54.6	54.8	54.9	55.1	54.7	54.6	54.7	54.7	54.6	54.4	54.3
MINIMUM	49.4	49.6	49.8	50.0	50.1	50.2	49.8	44.7	42.3	43.1	43.1	43.0

MAXIMUM CAPACITY 55.0 BG

**New Jersey Water Supply Authority
MANASQUAN SYSTEM RAINFALL
INCHES**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	
1998	1.37	1.24	0.94	7.03	2.22	2.97	2.07	1.70	1.47	1.05	4.28	4.86	1999
1997	2.80	4.67	3.57	5.56	7.51	6.17	5.19	5.82	6.22	3.11	1.95	2.88	1998
1996	5.52	2.34	6.97	2.48	3.45	4.63	3.99	2.97	2.42	4.27	7.50	3.13	1997
1995	6.63	6.52	2.16	5.86	1.06	3.47	4.63	2.70	4.83	6.83	3.47	5.52	1996
1994	1.00	3.76	2.64	3.12	2.65	1.20	2.79	2.97	2.42	1.77	3.50	3.72	1995
1993	5.08	1.12	3.73	5.38	2.10	5.93	2.72	3.46	1.80	3.12	6.75	2.89	1994
1992	2.08	3.89	7.00	2.05	2.78	8.42	1.91	1.36	1.31	4.45	4.16	6.50	1993
1991	1.85	1.84	4.12	1.57	1.53	3.25	1.17	3.73	2.15	6.00	9.10	3.41	1992
1990	3.93	1.88	4.25	5.74	1.51	5.78	4.78	2.93	2.92	3.06	5.25	4.01	1991
TOTAL	30.26	27.26	35.38	38.79	24.81	41.82	29.25	27.64	25.54	33.66	45.96	36.92	
AVERAGE	3.36	3.03	3.93	4.31	2.76	4.65	3.25	3.07	2.84	3.74	5.11	4.10	
MAXIMUM	6.63	6.52	7.00	7.03	7.51	8.42	5.19	5.82	6.22	6.83	9.10	6.50	
MINIMUM	1.00	1.12	0.94	1.57	1.06	1.20	1.17	1.36	1.31	1.05	1.95	2.88	

NOTE: The Manasquan System started operations July 1, 1990

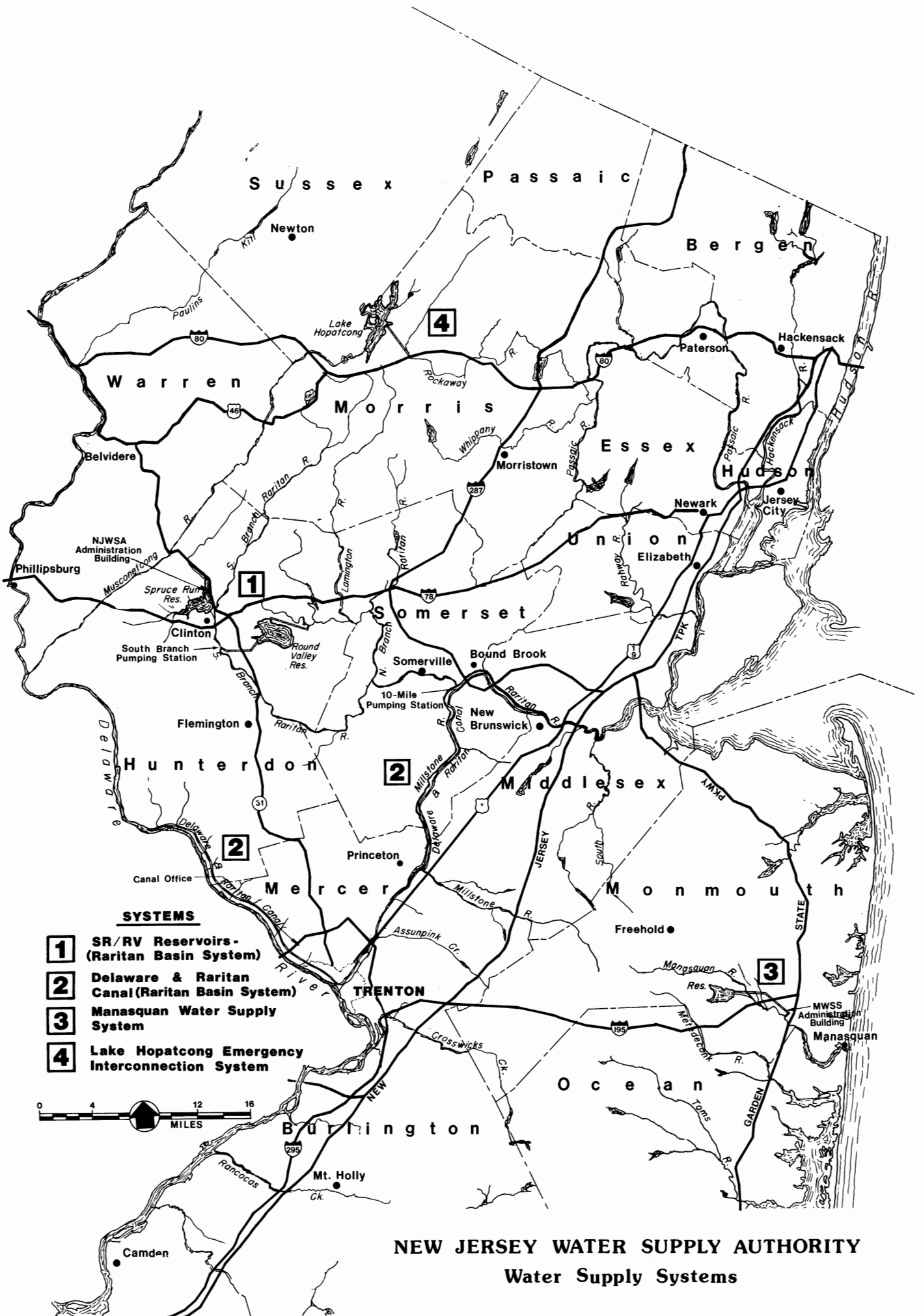
**New Jersey Water Supply Authority
MANASQUAN RESERVOIR STORAGE DATA
BILLION GALLONS**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	
1998	4.16	3.86	3.80	4.16	4.48	4.53	4.55	4.53	4.31	3.84	3.47	3.41	1999
1997	3.76	3.80	3.95	4.39	4.55	4.64	4.62	4.60	4.57	4.50	4.42	4.23	1998
1996	4.46	4.35	4.50	4.50	4.60	4.62	4.64	4.55	4.50	4.24	4.09	3.95	1997
1995	3.78	3.97	4.39	4.39	4.37	4.46	4.53	4.55	4.55	4.50	4.50	4.44	1996
1994	4.09	4.05	3.88	3.99	4.20	4.42	4.44	4.48	4.44	4.37	4.33	3.82	1995
1993	3.97	3.95	4.11	4.24	4.23	4.46	4.55	4.50	4.44	4.29	4.22	4.16	1994
1992	4.18	4.14	4.37	4.53	4.55	4.64	4.64	4.57	4.46	4.24	4.03	3.95	1993
1991	3.84	3.74	3.90	3.78	3.53	3.76	4.18	4.44	4.62	4.53	4.50	4.44	1992
1990	4.48	4.35	4.16	4.23	4.23	4.37	4.48	4.48	4.42	4.22	4.07	3.90	1991
AVERAGE	4.08	4.02	4.12	4.25	4.30	4.43	4.51	4.52	4.48	4.30	4.18	4.03	
MAXIMUM	4.48	4.35	4.50	4.53	4.60	4.64	4.64	4.60	4.62	4.53	4.50	4.44	
MINIMUM	3.76	3.74	3.80	3.78	3.53	3.76	4.18	4.44	4.31	3.84	3.47	3.41	

MAXIMUM CAPACITY 4.7 BG

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- SYSTEMS**
- 1** SR/RV Reservoirs - (Raritan Basin System)
 - 2** Delaware & Raritan Canal (Raritan Basin System)
 - 3** Manasquan Water Supply System
 - 4** Lake Hopatcong Emergency Interconnection System



NEW JERSEY WATER SUPPLY AUTHORITY
Water Supply Systems



New Jersey Water Supply Authority
1851 Highway 31
PO Box 5196
Clinton, NJ 08809