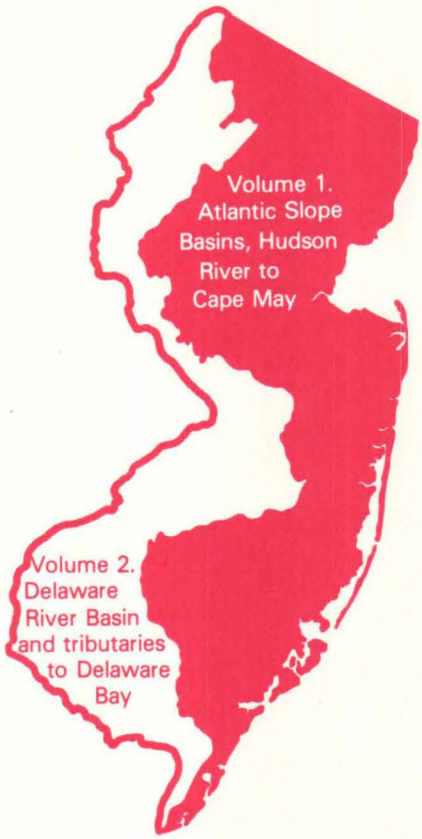
Water Resources Data New Jersey Water Year 1987

Volume 1. Atlantic Slope Basins, Hudson River to Cape May



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-87-1
Prepared in cooperation with the New Jersey Department of Environmental Protection and with other agencies

CALENDAR FOR WATER YEAR 1987

1986

OCTOBER

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1987

JANUARY

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31						

JUNE

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AUGUST

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30	31					

SEPTEMBER

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27	28	29	30			

United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

I am pleased to announce the release of our Annual Report, "Water Resources Data for New Jersey, Water Year 1987". This report was prepared by the U.S. Geological Survey, in cooperation with the State of New Jersey and several local and federal government agencies.

Once again this year, the report is issued in two volumes:

Volume 1.--Atlantic Slope Basins, Hudson River to Cape May.
Volume 2.--Delaware River Basin and tributaries to Delaware Bay.

The report contains records of stream discharge and water-quality measurements, elevations of lakes and reservoirs, major water-supply diversions, and tidal elevations. Also included are records of sediment concentrations and records of ground-water quality and ground-water levels. Special sections are devoted to low-flow and crest-stage data and summaries of tidal crest elevations in the New Jersey estuaries and intracoastal waterways.

This year, items under the heading "Special Networks and Programs" have been modified to include identification of District stations which are part of each network. Also, a new table using frequency symbols has been included in Summary of Hydrologic Conditions as "Frequency of Detection of Bottom Materials at New Jersey streams for water years 1976-1987". There is also a new graph of monthly precipitation.

Copies of this report in paper or microfiche are for sale through the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. When ordering, refer to U.S. Geological Survey Water-Data Report NJ-87-1 (for volume 1) and NJ-87-2 (for volume 2). For further information on this report, or to change or remove your address from our mailing list, please contact me at the above address or telephone (609) 771-3900.

Sincerely,

William R. Bauersfeld

William R. Bauersfeld, Chief
Hydrologic Data Assessment Program

Water Resources Data New Jersey Water Year 1987

Volume 1. Atlantic Slope Basins, Hudson River to Cape May

by W.R. Bauersfeld, E.W. Moshinsky, E.A. Pustay, and W.D. Jones

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-87-1
Prepared in cooperation with the New Jersey
Department of Environmental Protection
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in New Jersey write to

District Chief, Water Resources Division
U.S. Geological Survey
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

1988

PREFACE

This volume of the annual hydrologic data report of New Jersey is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by state, local, and federal agencies, and the private sector for developing and managing our Nation's land and water resources.

Hydrologic data for New Jersey are contained in 2 volumes:

Volume 1. Atlantic Slope Basins, Hudson River to Cape May
Volume 2. Delaware River Basin and tributaries to Delaware Bay

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. The following individuals contributed significantly to the completion of the report.

Eugene Dorr Mark A. Hardy Robert D. Schopp

K.L. Laubach word processed the text of the report, and G.L. Simpson drafted the illustrations.

The data were collected, computed, and processed by the following personnel:

G. Carleton	M.J. DeLuca	E. Rodgers
J.P. Campbell	J.F. Dudek	R.D. Sachs
G.L. Centinaro	C.E. Gurney	F.L. Schaefer
R.S. Cole	R.G. Reiser	

This report was prepared in cooperation with the State of New Jersey and with other agencies under the general supervision of Mark A. Ayers, Associate District Chief for Hydrologic Data Assessment and Information Management; Donald E. Vaupel, District Chief, New Jersey; and Stanley P. Sauer, Regional Hydrologist, Northeastern Region.

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5. Report Date
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Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

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(G)

12. Sponsoring Organization Name and Address
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Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

13. Type of Report & Period Covered
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14.

15. Supplementary Notes

Prepared in cooperation with the New Jersey Department of Environmental Protection and with other agencies.

16. Abstract (Limit: 200 words)

Water Resources data for the 1987 water year for New Jersey consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This volume of the report contains discharge records for 77 gaging stations; tide summaries for 1 station; stage and contents for 15 lakes and reservoirs; water quality for 62 surface-water sites and 160 wells; and water levels for 39 observation wells. Also included are data for 40 crest-stage partial-record stations, 12 tidal crest-stage gages, and 49 low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the national water data system operated by U.S. Geological Survey and cooperating State and Federal agencies in New Jersey.

17. Document Analysis a. Descriptors

*New Jersey, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water Levels, Water Analyses.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement: No restriction on distribution. This report may be purchased from: National Technical Information Service, Springfield, VA 22161	19. Security Class (This Report) Unclassified	21. No. of Pages 355
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(See ANSI-Z39.18) *See Instructions on Reverse*

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(Formerly NTIS-35)
Department of Commerce

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ILLUSTRATIONS

TABLES

SURFACE WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Note.--Data for partial-record stations and miscellaneous sites for surface-water quantity are published in a separate section of the data report. See references at the end of this list for page numbers for this section.

[Letter after station name designates type of data: (d) discharge, (c) chemical, (s) sediment, (m) microbiological, (t) water temperature, (e) elevation, gage height or contents]

WATER RESOURCES DATA - NEW JERSEY, 1987

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of New Jersey each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - New Jersey."

This report series includes records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 77 gaging stations; tide summaries at 1 gaging station; stage and content at 15 lakes and reservoirs; water quality at 62 surface-water stations and 160 wells; and water levels at 39 observation wells. Records included for ground-water levels are only a part of those obtained during the year. Also included are data for 40 crest-stage partial-record stations and stage only at 12 tidal crest-stage gages. Locations of these sites are shown on figures 10, 11, 12, and 13. Additional water data were collected at various sites not involved in the systematic data-collection program. Discharge measurements were made at 49 low-flow partial-record stations. Miscellaneous data were collected at 90 measuring sites. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New Jersey.

This series of annual reports for New Jersey began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels. Beginning with the 1977 water year, these data were published in two volumes.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for New Jersey were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Part 1B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Books and Open-file Reports Section, Federal Center, Building 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NJ-87-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information, Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (609) 771-3900.

COOPERATION

This report was prepared by the U.S. Geological Survey under cooperative agreement with the following organizations:

New Jersey Department of Environmental Protection, Richard T. Dewling, Commissioner.
  Division of Water Resources, George McCann, Director.
New Jersey Water Supply Authority, Rocco Ricci, Executive Director.
North Jersey District Water Supply Commission, Dean C. Noll, Chief Engineer.
Passaic Valley Water Commission, W.I. Inhoffer, General Superintendent and Chief Engineer.
County of Bergen, Edward R. Ranuska, Director of Public Works and County Engineer.
County of Camden, Barton Harrison, Chairman of Camden County Planning Board.
County of Gloucester, Robert V. Scoltino, Director of Planning.
County of Somerset, Thomas E. Decker, County Engineer, and Thomas Harris, Administrative Engineer.
Township of West Windsor, Larry Ellery, Chairman of Environmental Commission.

Assistance in the form of funds was given by the U.S. Army Corps of Engineers, in collecting records for 17 surface water stations, and by the U.S. Army Armament Research and Development Center for the collection of records at 3 surface-water stations. In addition, several stations were operated fully or partially from funds appropriated directly to the Geological Survey. Funding was also supplied by the following Federal Energy Regulating Commission licensee: Jersey Central Power and Light Company and Independent Hydro Developers Inc. Assistance was provided by the National Weather Service and the National Ocean Service.

The following organizations aided in collecting records:

Municipalities of Atlantic City, Jersey City, Newark, New Brunswick and Spotswood; American Cyanamid Co.; Commonwealth Water Co.; Elizabethown Water Co.; Ewing-Lawrence Sewerage Authority; Hackensack Water Co.; New Jersey--American Water Company (formerly Monmouth Consolidated Water Co.); and Jersey Central Power and Light Co.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Streamflow for the 1987 water year was above normal throughout the State. Precipitation ranged from 63.3 inches (149 percent of normal), at Trenton to 48.08 inches (115 percent of normal), at Atlantic City. Figure 3 shows monthly precipitation compared with a 30-year mean. Reservoir contents were above average for most of the year and above spillway elevations from March through May.

Water year 1987 began with streamflow below normal, ranging from 86 percent of normal in the north to 61 percent of normal in the south. Increased streamflow began in November when very high precipitation (262 percent in Trenton to 135 percent in Atlantic City) was recorded and above average streamflow resulted through the end of December. During the winter months, streamflow was about average. Storms on April 1, 4, 5 caused up to 4 to 5 inches of precipitation in northern New Jersey. The stream runoff reflected this and the peak discharge for the year in this area was recorded. Streamflow returned to normal through August. Some severe summer storms were recorded. On July 3, in Hightstown, 3.98 in. fell in a 24-hour period; on August 6, Woodstown recorded 3.56 in.; and on September 14, Canestear Reservoir reported 5.90 in. Precipitation in July, August, and September was slightly above normal so that by the end of September, streamflow was above normal in the north (158 percent of normal) and below normal in the south (77 percent of normal). The Delaware River at Trenton recorded flow 382 percent of normal in September due mainly to the heavy precipitation in the headwaters.

Streamflow at the index station for northern New Jersey (South Branch Raritan River near High Bridge) averaged 133 ft^3/s for the water year; this flow is 109 percent of the 69-year average. Streamflow at the index station for southern New Jersey (Great Egg Harbor River at Folsom) averaged 91.1 ft^3/s for the water year; this flow is 106 percent of the 62-year average. The observed annual mean discharge of the Delaware River at Trenton was 22,820 ft^3/s, which is 101 percent of normal. The Delaware River is highly regulated by reservoirs and diversions. The natural flow at Trenton (adjusted for upstream storage and diversion) was 111 percent of normal for the year. Figures 1 and 2 compare the monthly and annual discharges with past records at these index gaging stations.

Storage in the 13 major water-supply reservoirs in New Jersey increased from 55.6 billion gallons (74 percent of capacity) on October 1, 1986, to 70.5 billion gallons (93 percent of capacity) on September 30, 1987. Storage in Wanaque Reservoir increased from 20.8 billion gallons (75 percent of capacity) on October 1, 1986 to 23.5 billion gallons (85 percent of capacity) on September 30, 1987. Pumped storage in Round Valley Reservoir, the largest reservoir capacity in the State, increased from 50.6 billion gallons (92 percent of capacity) on October 1, 1986, to 53.1 billion gallons (96 percent of capacity) on September 30, 1987.

Water Quality

Periods of above-normal streamflow in northern portions of the State during November, December, April and September caused increased dilution of dissolved solids in many northern and central streams for those months. Dilution of dissolved solids is generally regarded as an improvement in water quality because concentrations of undesirable substances, such as trace elements, organic compounds, nutrients, bacteria and nuisance aquatic organisms, usually also are diluted. The degree of dilution is especially apparent if monthly mean values of specific conductance, which are directly related to dissolved solids concentrations, for 1987 are compared with those for the period 1981-86. Figure 4 compares specific conductances for the Delaware River at Trenton, a large drainage in central New Jersey as well as parts of New York and Pennsylvania, for 1987, 1986, and the mean for 1981-86. The years' lowest instantaneous value, 82 µs/cm, (microsiemens per centimeter at 25 degrees Celsius) occurred on April 6, caused by the storms of the first days of the month. The effects of above normal streamflows of November and December, as well as the effect of very high flows caused by heavy headwater precipitation in September, are apparent in difference between the 1987 values and the mean values for those months. Relatively high conductivities during February were probably caused by greater amounts of road salt reaching the river than in the past. Over the course of the entire year, periods of higher than normal dilution were balanced by periods of lower than normal dilution. The mean specific conductance for the Delaware River at Trenton was within 5 percent of the mean for the period 1981-86.

PCB's and a number of pesticides are commonly detected in New Jersey streams. Table 1 summarizes the frequency of detection of these compounds in bottom materials from 1976 through 1987. Detection limits for the period covered by Table 1 were 1.0 µg/kg (micrograms per kilogram) for PCN, chlordane, and PCB, 1.0 TO 10 µg/kg for toxaphene and 0.1 µg/kg for the other compounds. The number of sites at which samples were collected ranged from 13 to 35 per year, with a median of 27. Sites sampled more than once in a year were counted one time. The organochlorine compounds chlordane, dieldrin, DDT (and its decomposition products DDD and DDE), and PCB's are the most commonly detected ones in stream bottoms of the State. Chlordane and dieldrin have been widely used against soil pests as well as termites and ants. DDT was a common, low cost, broad spectrum pesticide, but its production and use in the United States has been banned since 1972. PCB's have been used in many industrial and manufactured items (for example lubricants, dyes, hydraulic fluids, and so forth), but their use has been restricted to environmentally closed systems (for example, electrical capacitors and transformers) since 1971. Common sources of PCB's include industrial and municipal effluents, landfills and other soil disposal sites, and incineration of material containing PCB's (Natural Resources Council, 1979). All of these organochlorine compounds are persistent in the environment and even though their use may be restricted or prohibited, they are still found in the surface and ground waters in the State.

Figure 5 summarizes the concentrations of chlordane, DDT, DDD, DDE, and PCB's, in New Jersey stream-bottom samples for 1976-87. Only those sites were included for which water-quality data are presented in either volume of this report. Figure 5 includes the percentage of samples collected in which at least one compound exceeded a concentration of 20 µg/kg (micrograms per kilogram)--a level selected to include the highest 15 to 20 percent of values nationwide (Cragwall Jr., J. S. U.S.Geological Survey, written commun., 1977). Dieldrin, even though frequently detected, has not been included in Figure 5 because its concentration has been measured as greater than 20 µg/kg

only three times in this period. Figure 6 shows the locations of sites sampled during the 1987 water year at which at least one of these compounds exceeded a concentration of 20 μg/kg.

The U.S. Geological Survey maintains a saltwater monitoring network in the Coastal Plain of New Jersey to document and evaluate the movement of saline water into freshwater aquifers that serve as sources of water supply. The results of the sampling of wells are presented in the quality of ground water tables in these reports. In the 1987 water year, 250 samples were collected in 8 counties.

Ground-Water levels

Changes in ground-water levels during 1987 water year were determined from a statewide network of observation wells. Ground-water levels in water-table observation wells recovered somewhat from the previous two years. Water levels in most observation wells tapping the heavily stressed confined aquifers of the Coastal Plain continued to show long-term net declines. Increasing withdrawals of ground water contributed to these declines.

Monthly water levels for two water-table observation wells in 1987 are compared with monthly extremes and long-term averages in figure 7. The wells are the Bird well (NJ-WRD well no. 19-0002) in Hunterdon County and the Crammer well (NJ-WRD well no. 29-0486) in Ocean County. For further comparison, twenty-year hydrographs are presented in figure 8 for two Coastal Plain wells, one water table well (NJ-WRD well no. 05-0689) and one artesian well (NJ-WRD well no. 07-0413). In addition, multi-year hydrographs are provided with the 1987 water-level data for all the wells included in this report.

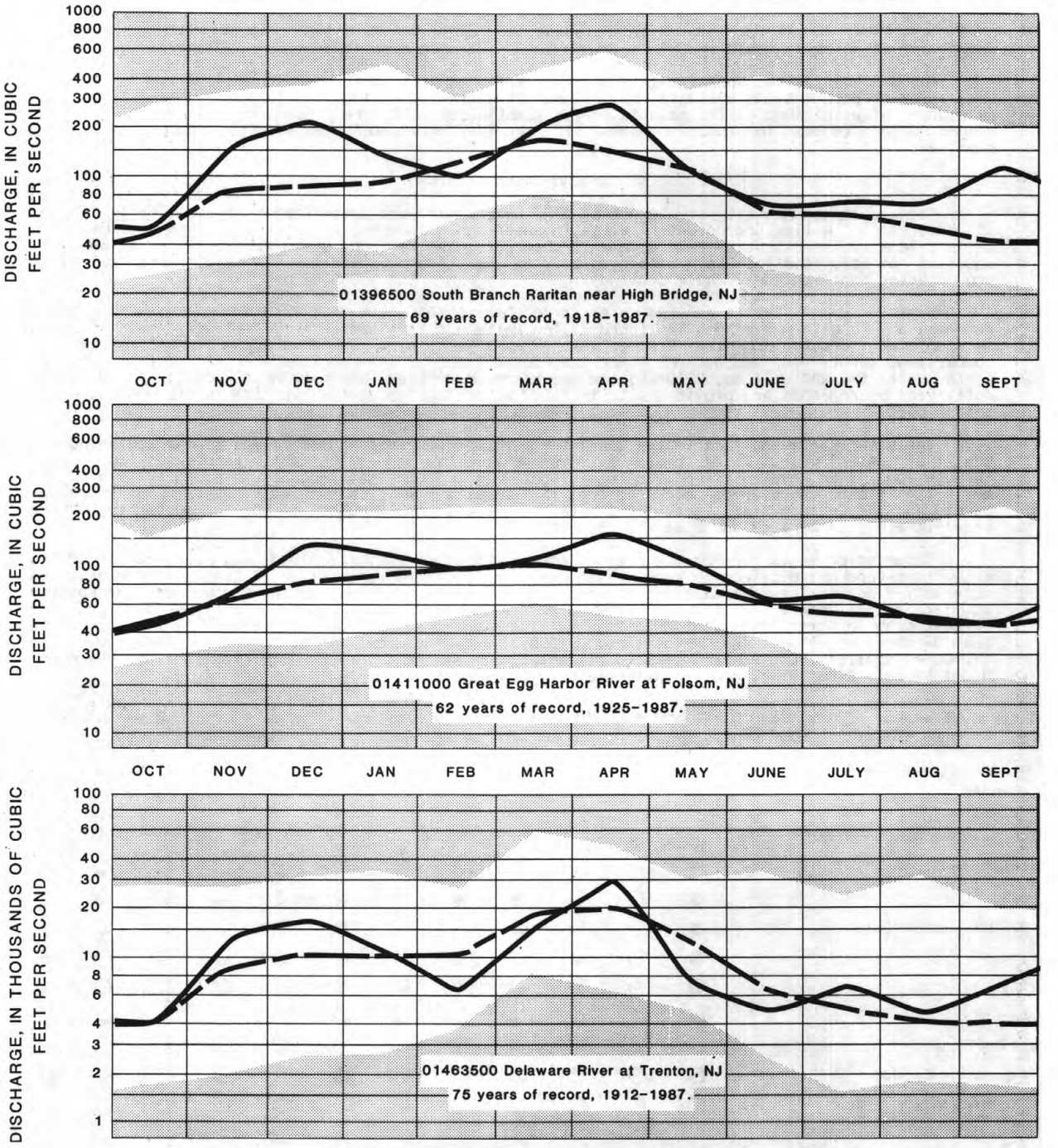
The water-table aquifers in the Coastal Plain were near record low levels at the beginning of the 1987 water year. Water-levels in most water-table observation wells recovered from January through June, then leveled off or declined slightly through the remainder of the water year. The most significant recoveries occurred in the Winslow 5 well (NJ-WRD well no. 07-0503) in Camden County and the Lebanon State Forest 23-D well (NJ-WRD well no. 05-0689) in Burlington County, where water-levels rose by 4.02 and 3.86 ft, respectively.

Observation wells tapping the heavily stressed Coastal Plain confined aquifers continued to show long-term net declines in many areas. New lows of record were set in 21 Coastal Plain artesian observation wells. The most significant water-level declines occurred in the Potomac-Raritan-Magothy aquifer system where 12 network observation wells exceeded their previous lows of record. The largest drop in water level in the Potomac-Raritan-Magothy aquifer system occurred in the Toms River Chem 84 observation well (NJ-WRD well no. 29-0085) where the previous record low was exceeded by 4.6 ft. Other aquifers, where previous lows of record were exceeded include the Englishtown, Wenonah-Mount Laurel, Piney Point and the Atlantic City 800-foot sand.

Table 1.--Frequency of detection of organochlorine and organophosphorus compounds in bottom materials of New Jersey streams, for water years, 1976-87.

COMPOUND	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
(Organochlorine compounds)												
Chlordane	●	⊖	⊖	●	●	◒	◒	◒	◒	◒	◒	⊖
DDD	●	⊖	◒	●	●	●	◒	●	◒	◒	◒	●
DDE	●		◒	◒	◒	◒	●	⊖	◒	◒	◒	●
DDT	●	⊖	◒	◒	◒	●	◒	◒	◒	◒	⊖	●
PCB	◒	⊖	◒	◒	●	◒	●	◒	◒	◒	⊖	◒
Dieldrin	●	⊖	⊖	◒	◒	◒	◒	⊖	⊖	⊖	◒	⊖
Endosulfane		○		○	○	○	○	○	○	○	○	⊖
Heptachlor Epoxide	○	○	○	○	○	○	○	○	○	○	⊖	⊖
Aldrin, Lindane, Endrin Toxaphene, Heptachlor	○	○	○	○	○	○	○	○	○	○	○	○
PCN			○	○	○	○	○	○	○	○	○	○
Mirex					○	○	○	○	○	○	○	○
(Organophosphorus compounds)												
Methoxychlor, Malathion, Parathion, Diazanon, Methyl Parathion, Ethyl Trithion, Methyl Trithion, Ethion			○	○	○	○	○	○	○	○	○	○

Frequency: ○ (0 - 25%), ⊖ (26 - 50%), ◒ (51 - 75%), ● (76 - 100%)



Unshaded area.--Indicates range between highest and lowest mean recorded for the month, prior to 1987 water year.

Broken line.--Indicates normal (median of the monthly means) for the standard reference period, 1951-1980.

Solid line.--Indicates observed monthly mean flow for the 1987 water year.

Figure 1.--Monthly streamflow at key gaging stations.

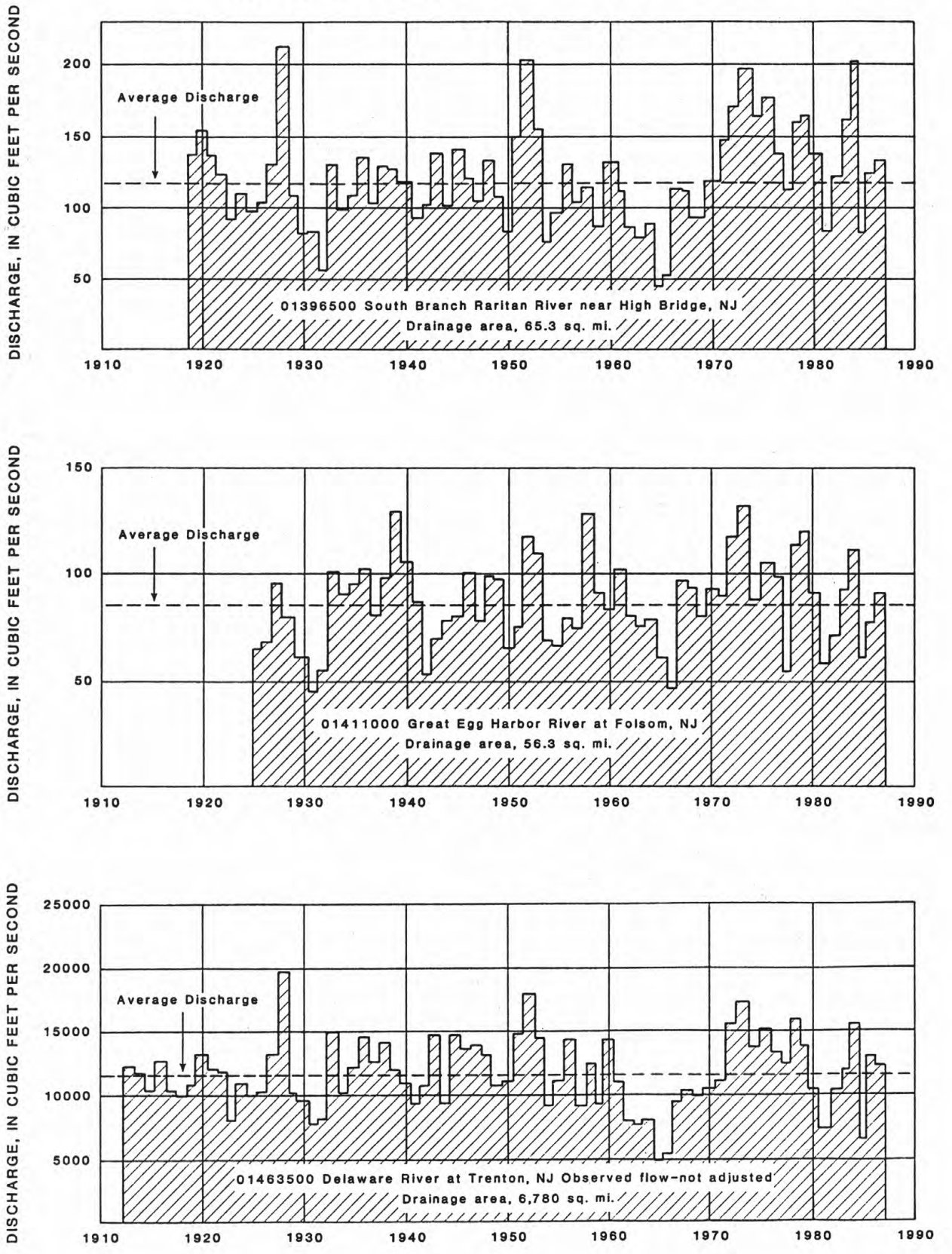


Figure 2.--Annual mean discharge at key gaging stations.

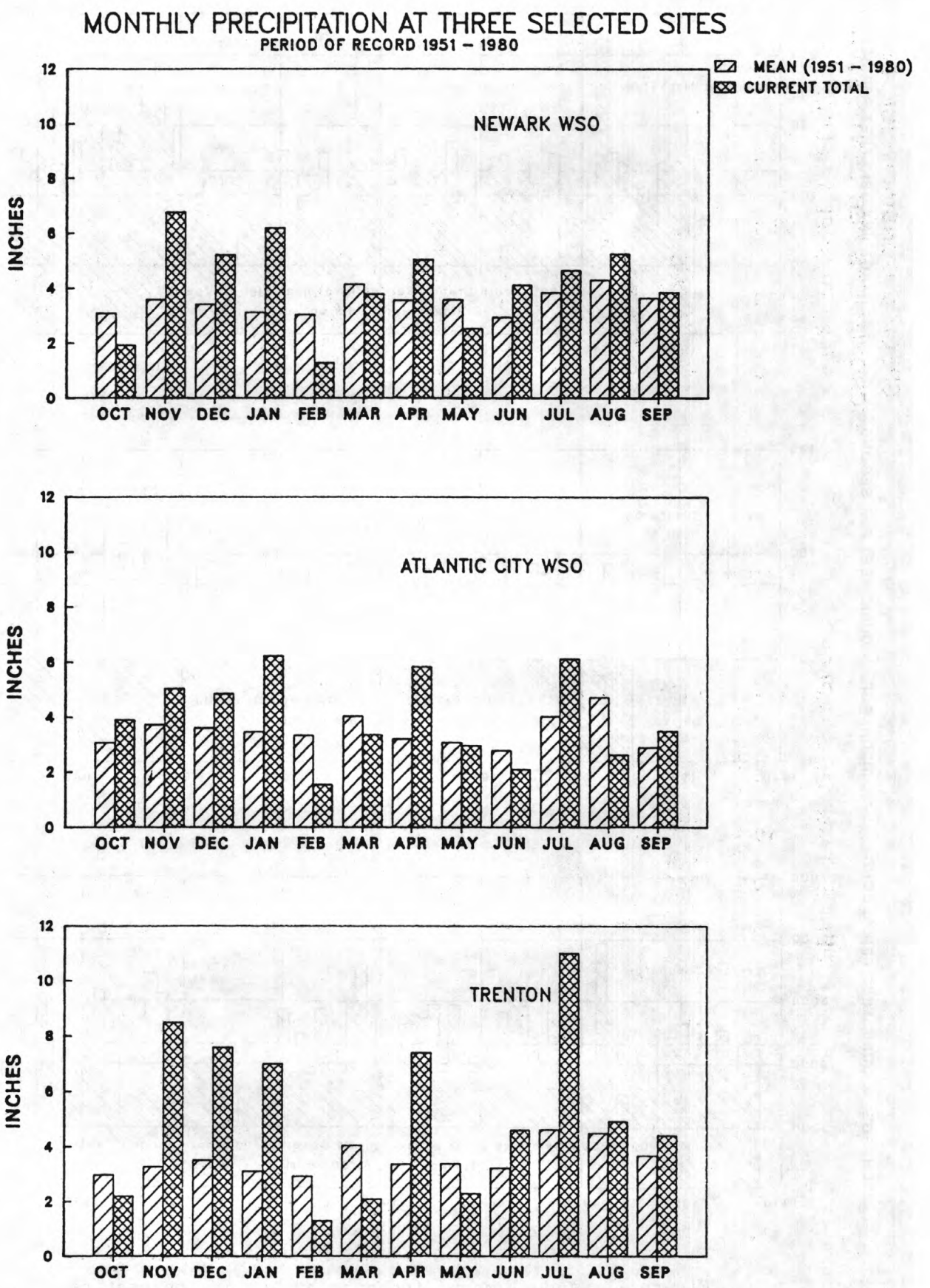


Figure 3.--Monthly precipitation at three National Weather Service locations.

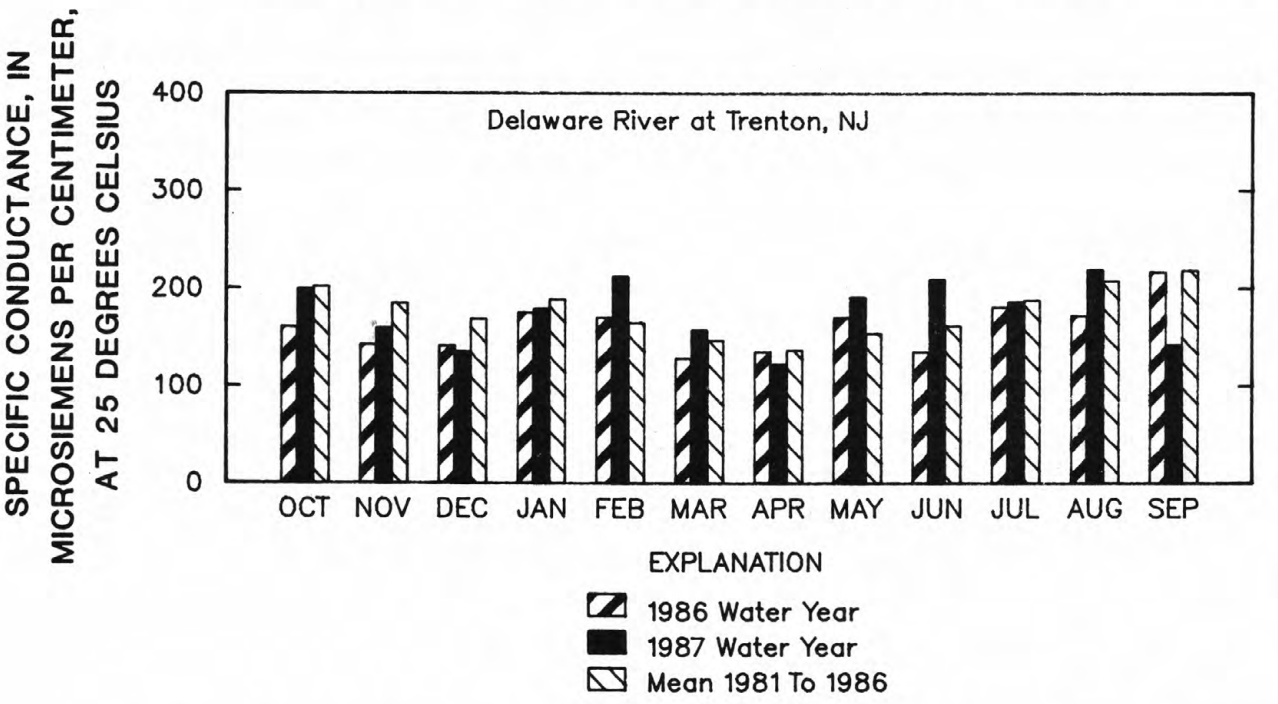


Figure 4.--Monthly mean specific conductance at Delaware River at Trenton.

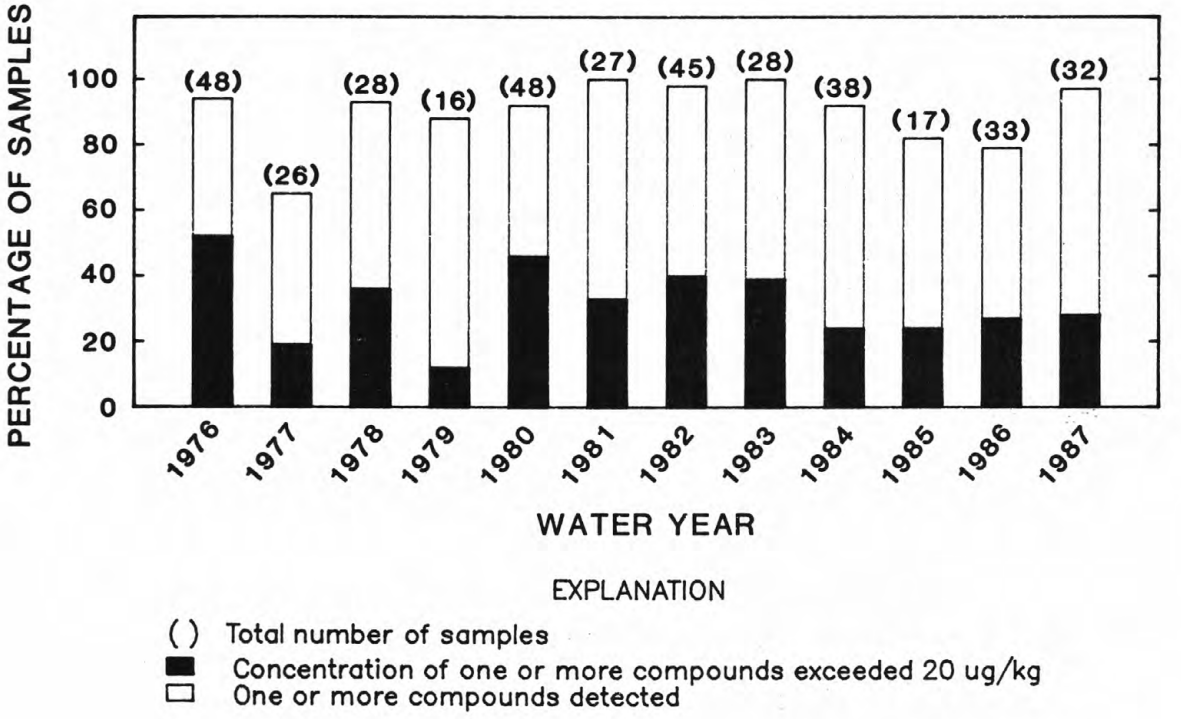


Figure 5.--Occurrence of chlordane, DDT, DDE, DDD and PCB's in stream bottom material.

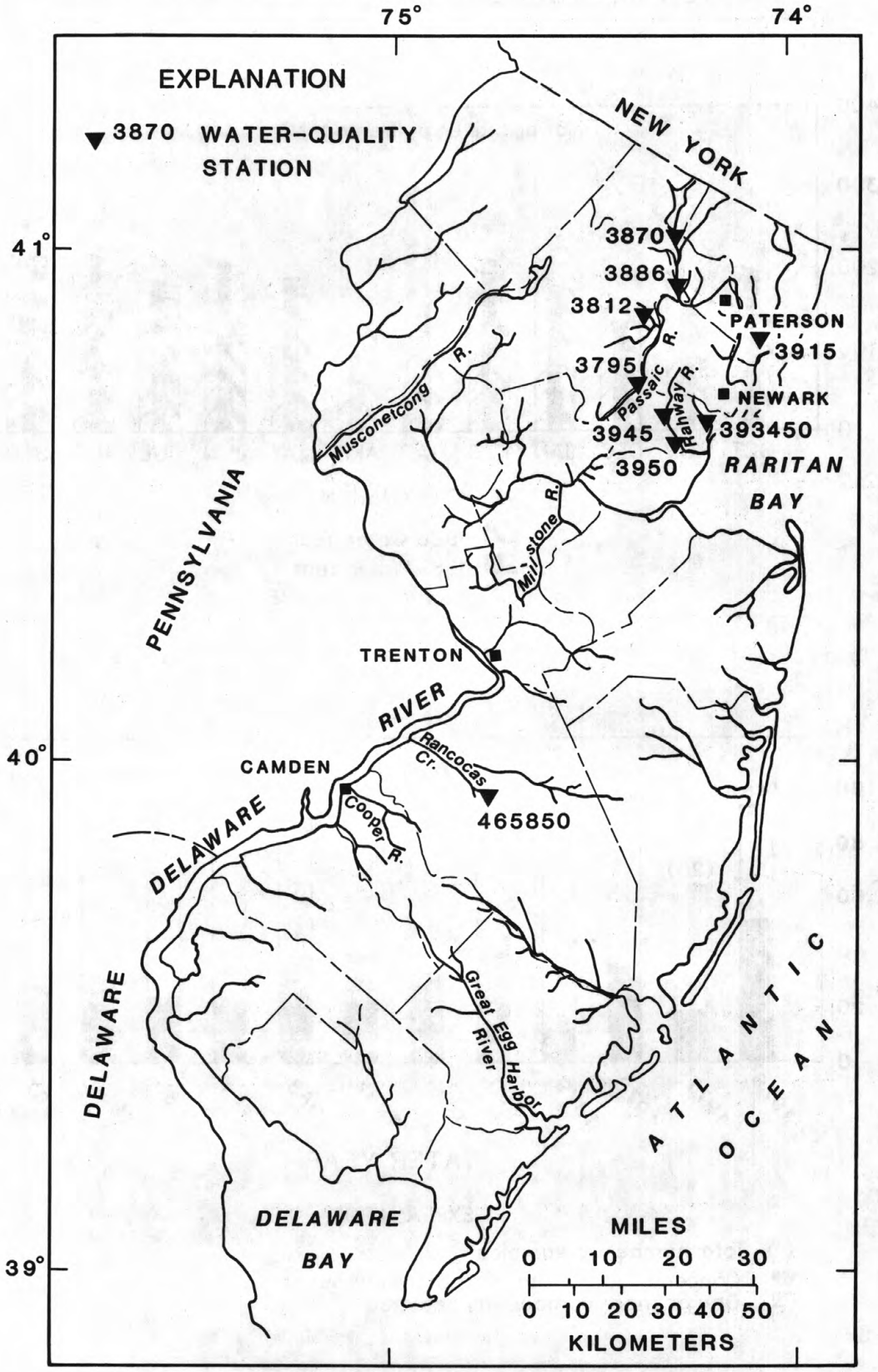
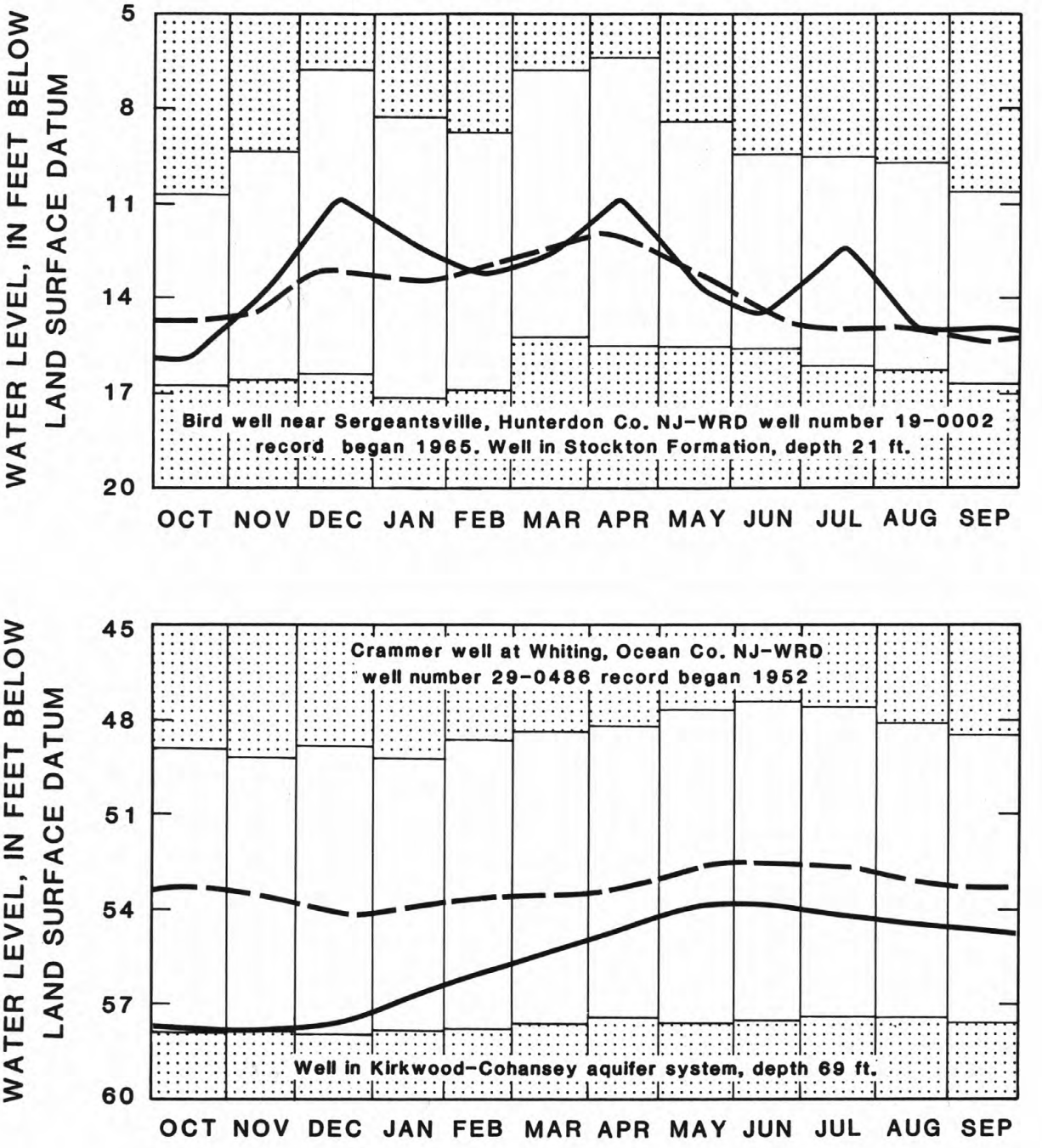


Figure 6.--Map showing locations of sites with concentrations of Chlordane, DDD, DDE, DDT, or PCB's in bottom material greater than 20 μg/kg, 1987.



Unshaded area. -- Indicates range between highest and lowest recorded monthly water levels, prior to current year.

Dashed line. -- Indicates average of monthly water levels, prior to current year.

Solid line. -- Indicates monthly mean water level for the current year.

Figure 7.--Monthly ground-water levels at key water-table observation wells.

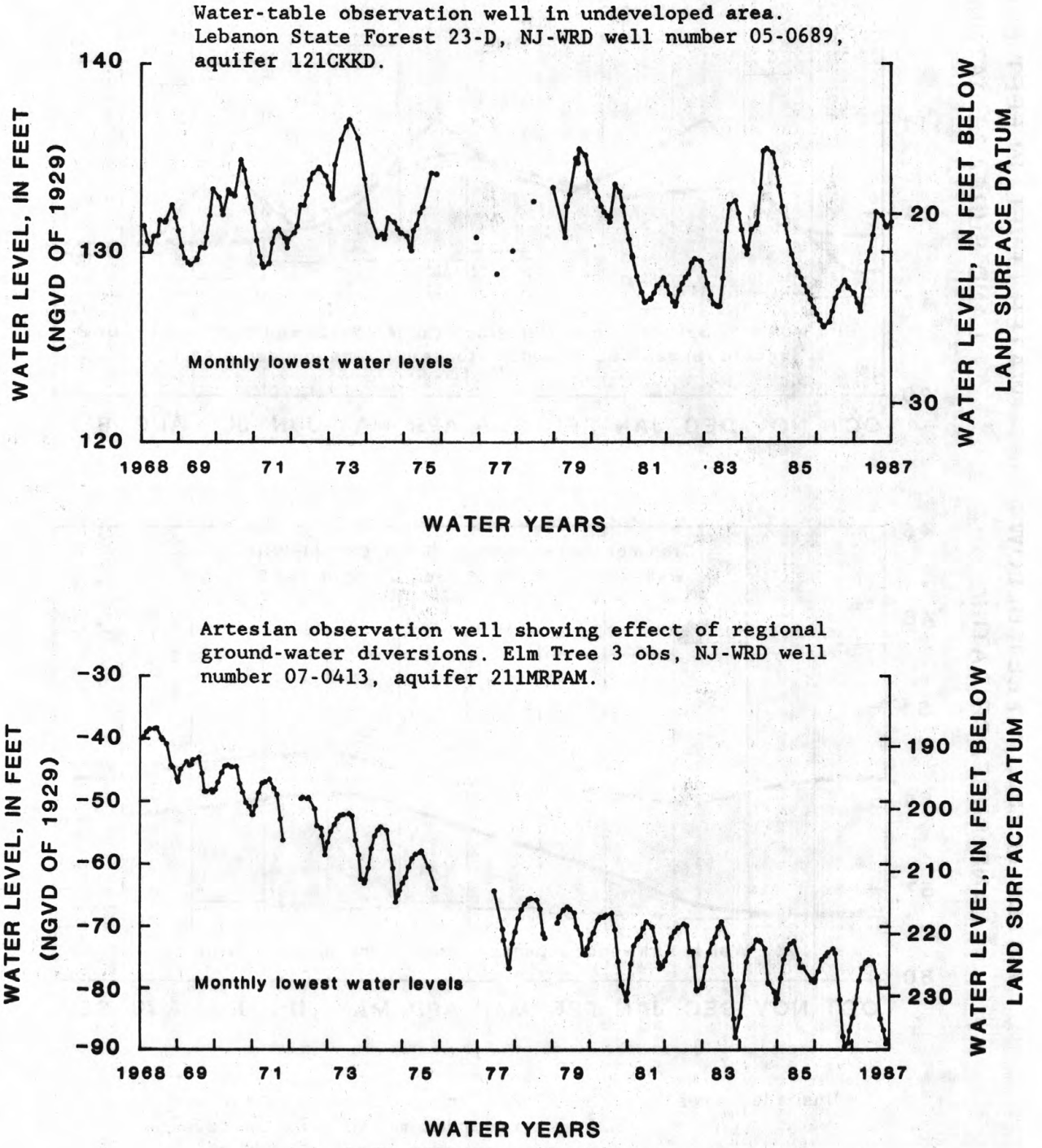


Figure 8.--Twenty-year hydrographs of one artesian and one water-table observation well.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man. The Bench-mark Network station published in this report is McDonalds Branch in Lebanon State Forest, NJ (01466500).

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network igned by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research. NASQAN stations published in this report are: Passaic River at Little Falls, NJ (01389500), Raritan River, at Queens Bridge, at Bound Brook, NJ (01403300), Toms River near Toms River, NJ (01408500), West Branch Wading River at Maxwell, NJ (01409815), Maurice River at Norma, NJ (01411500), and Delaware River at Trenton, NJ (01463500).

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP). No NTN stations are published in this report.

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States. The Radiochemical Program station published in this report is Delaware River at Trenton, NJ (01463500).

Tritium Network is a network of stations which has been established to provide baseline information or the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States. No Tritium Network stations are published in this report.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1987 water year that began October 1, 1986, and ended September 30, 1987. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 10, 11, 12, and 13. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. Generally the "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 01396500, which appears just to the left of the station name, includes the two-digit Part number "01" plus the 6-digit downstream-order number "396500". The Part number designates the major drainage basin; for example, Part "01" covers the North Atlantic slope basins.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The

first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure below.)

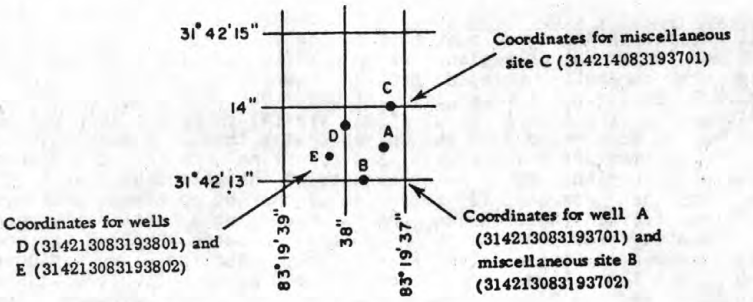


Figure 9.--System for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figures 10 and 11.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some

stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers or the Delaware River Basin Commission.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge

or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated" or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the New Jersey District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 10.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites which are not at a surface-water daily record station appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

Water-quality data must represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made onsite when the samples are collected. In addition, specific procedures must be used in collecting, treating, and shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. These references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" at the end of the introductory text. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey, New Jersey District office.

In streams, concentrations of various constituents may vary within the cross section depending on variables such as flow rate, the sources of the constituents, and mixing. Generally, constituents in solid phases are more variable in the cross section than are dissolved constituents. In many cases, samples must integrate several parts of the stream cross section to be representative, especially if loads will be calculated. One sample may be representative of the cross section when the distribution of constituents is homogeneous. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from several verticals.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. In some instances, apparent inconsistencies may exist in the data. For example, the orthophosphate-phosphorus concentration may exceed total phosphorus concentration. However, the difference in the inconsistent values normally is smaller than the precision of the analytical techniques. Inconsistencies between pH and carbonate and bicarbonate concentrations are commonly caused by intake or loss of carbon dioxide by the sample before it can be analyzed.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the Geological Survey, New Jersey District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum, minimum and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the New Jersey District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspenced-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurments

Samples for biochemical-oxygen demand and for fecal coliform and fecal streptococcal bacteria are analyzed at the District laboratory or at the New Jersey Department of Health, Division of Laboratories and Epidemiology. Samples for nutrients are analyzed at the New Jersey Department of Health or at the Geological Survey Laboratory in Arvada, Colorado. Sediment samples are analyzed in the Geological Survey Laboratory in Harrisburg, Pennsylvania. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceeding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature recorder, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites which are not at a surface-water daily record station are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for

these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in New Jersey are shown in figure 12.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the NJ-WRD well number, a hyphenated 6 digit identification number assigned to all New Jersey wells in the Ground Water Site Inventory (GWSI) data base. The first two digits are a code for the county in which the well is located and the last four digits are a sequence number. These NJ-WRD well numbers are being used now in the ground-water level descriptions, wells sampled for water quality analyses, and on the corresponding location maps in these reports.

Water-level records are obtained from direct measurments with a steel tape, from the punched tape of a water-level recorder, or from water-level extremes recorder. Beginning in the 1977 water year, water-level recorders were removed from some wells and replaced by water-level extremes recorders. The extremes are read from these recorders at about three month intervals, but the actual dates of occurrence of these extremes (highest and lowest water levels) are unknown. In these reports, the water-level extremes are given together with the manually measured water levels.

Most water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with water-level recorders are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. All measurements published herein are reported to a hundredth of a foot.

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year, and a multi-year hydrograph. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; (a landline location designation); the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of record and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum or elevation of water level. For wells equipped with recorders, only abbreviated tables are published. Mean daily water-levels are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report consist of only one set of measurements for the water year. Because ground-water movement is normally slow compared to surface water, frequent measurements are not necessary for monitoring purposes. More frequent measurements may be necessary for studying ground-water problems, trends, or processes. Locations of wells for which water-quality data are published are shown in figure 13.

Data Collection and Computation

The records of ground-water quality in this report were obtained from water-quality monitoring studies in specific areas. Consequently, chemical analyses are presented for some counties but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

In ground-water observation wells, water in the casing may not be representative of aquifer water quality. To collect samples representative of aquifer water, samples are collected only after at least three casing volumes of water have been pumped from the well and measurements of temperature, specific conductance, and pH have stabilized during the pumping.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County and are identified by NJ-WRD well number. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

CURRENT WATER RESOURCES PROJECTS IN NEW JERSEY

The Geological Survey is currently involved in a number of hydrologic investigations in the State of New Jersey. The following is a list of these investigations. Results are published at the conclusion of short-term projects or periodically in the case of long-term projects. Hydrologic data from these projects are entered into the WATSTORE data base. Subsequent sections contain information on recent publications and on WATSTORE.

Assessment of ground-water resources in the vicinity of ground-water contamination sites in Greenwich Township, New Jersey. *

Evaluation of field sampling techniques and analytical methods for organic compounds in ground water.

Geochemical effects on the corrosivity of ground water in the Kirkwood-Cohansey aquifer in the New Jersey Coastal Plain. *

Geochemical processes controlling aluminum and sulfate transport in acidic surface, ground and soil waters in a watershed in the New Jersey Coastal Plain.*

Geohydrologic investigations at United States Environmental Protection Agency Superfund sites.

Geohydrology at Picatinny Arsenal in Morris County, New Jersey.

Geohydrology in the vicinity of a fusion test reactor, Plainsboro Township, Middlesex County, New Jersey.

Geophysical characteristics of aquifers in New Jersey. *

Ground-water contamination by light chlorinated hydrocarbons at Picatinny Arsenal.

Ground-water quality and its relationship to geohydrology and land use in the outcrop area of the Potomac-Raritan-Magothy aquifer system, Mercer and Middlesex Counties, New Jersey.

Ground-water data collection network. *

Ground-water withdrawals and use in South River area of New Jersey. *

Ground-water resources investigation of the Rockaway River buried valley.*

Ground-water resources of northern Mercer County and southeastern Somerset County, New Jersey. *

Hydrologic processes with special emphasis on ground-water quality near Atlantic City, New Jersey. *

Hydrologic processes with special emphasis on ground-water quality near Camden, New Jersey. *

Hydrologic processes with special emphasis on ground-water quality near South River, New Jersey. *

Hydrology of buried valleys of Central Passaic River basin.*

Hydrology of the Kirkwood-Cohansey-Aquifer system in Gloucester County and the Upper Maurice River Basin.*

Hydrology of the Kirkwood-Cohansey-Aquifer system in Metedeconk and Toms River basin.*

Investigation of naturally occurring radioactive substances in ground water of the Triassic formations in New Jersey. *

Land subsidence related to ground-water withdrawals in the Coastal Plain of New Jersey. *

New Jersey water-use data system. *

Optimal withdrawals from a coastal aquifer subject to salt-water encroachment: Numerical analysis and case study.*

Quality of water data collection network. *

Regionalization of flood frequency for New Jersey streams.*

Regionalization of low flows for New Jersey streams. *

Simulation of multilayer Coastal Plain aquifer system of New Jersey.

Somerset County flood monitoring system, phase 2.

Surface-water data collection network. *

Water-use data system for the Delaware River basin.

*In cooperation with New Jersey Department of Environmental Protection, Division of Water Resources.

WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE GEOLOGICAL SURVEY DURING 1986-87

Campbell, J.B., 1987, Rainfall-runoff data for Somerset County, New Jersey: U.S. Geological Survey Open-File Report 87-384, 161 p.

Eckel, J.A., and Walker R.L., 1986, Water levels in major artesian aquifers of the New Jersey Coastal Plain, 1983: U.S. Geological Survey Water-Resources Investigations Report 86-4028, 62 p.

Harte, P.T., Sargent, B.P., and Vowinkel, E.F., 1986, Description and results of test-drilling program at Picatinny Arsenal, New Jersey, 1982-84: U.S. Geological Survey Open-File Report 86-316, 54 p.

Kish, G.R., Macy, J., and Mueller, R.T., 1987, Trace-metal leaching from plumbing materials exposed to acidic ground water in three areas of the Coastal Plain of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4146, 19 p.

Lacombe, P., Sargent, B.P., Harte, P.T., and Vowinkel, E.F., 1987, Determination of geohydrologic framework and extent of ground-water contamination using surface geophysical techniques at Picatinny Arsenal, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 86-4051, 31 p.

Lewis, J.C., and Spitz, F.J., 1987, Hydrogeology, ground-water quality, and the possible effects of a hypothetical radioactive-water spill, Plainsboro Township, New Jersey: U.S. Geological Survey Water-Resources Investigation Report 87-4092, 45 p.

Philips, M.O., and Schopp, R.D., 1986, Flood of April 5-7, 1984 in northeastern New Jersey: U.S. Geological Survey Open-File Report 86-423W, 112 p.

Sargent, B.P., Green, J.W., Harte, P.T., and Vowinkel, E.F., 1986, Ground-water-quality data for Picatinny Arsenal, New Jersey, 1958-85: U.S. Geological Survey Open-File Report 86-58, 66 p.

Schaefer, F.L., 1987, Selected literature on the water resources of New Jersey by the U.S. Geological Survey, through 1986: U.S. Geological Survey Open-File Report 87-767, 45 p.

Szabo, Z., and Zapecza, O.S., 1987, Relation between radionuclide concentrations and other chemical constituents in ground water in the Newark Basin, New Jersey in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium, and other radioactivity in ground water-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers Inc., p. 283-308.

U.S. Geological Survey, 1987, Water Resources data for New Jersey, 1987--part 1: U.S. Geological Survey Water-Data Report NJ-87-1, 335 p.

U.S. Geological Survey, 1987, Water Resources data for New Jersey, 1987--part 2: U.S. Geological Survey Water-Data Report NJ-87-2, 197 p.

Witkowski, P.J., Smith, J.A., Fusillo, T.V., and Chiou, C.T., 1987, A review of surface-water sediment fractions and their interactions with persistent anthropogenic organic compounds: U.S. Geological Survey Circular 993, 39 p.

Zapecza, O.S., and Szabo, Z., 1987, Source and distribution of natural radioactivity in ground water in the Newark Basin, New Jersey, in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium and other radioactivity-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers., p. 31-46.

Zapecza, O.S., Voronin, L.M., and Martin, M., 1987, Ground-water-withdrawal and water-level data used to simulate regional flow in the major Coastal Plain aquifers of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4038, 120 p.

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Geological Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Aquifer codes and geologic names:

The following list shows the aquifer unit codes and geologic names of the formations in which the sampled wells are finished. The aquifer unit codes also appear in the ground-water quality tables.

112SFDF	Stratified drift
112TILL	Till
112HLBC	Holly Beach water-bearing zone
112CPMY	Cape May Formation, undifferentiated
112ESRNS	Cape May Formation, estuarine sand facies
121CNSY	Cohansey Sand
121CKKD	Kirkwood-Cohansey aquifer system
122KRKDU	Rio Grande water-bearing zone of the Kirkwood Formation
122KRKDL	Atlantic City 800-foot sand of the Kirkwood Formation
124PNPN	Piney Point aquifer

125VNCN	Vincentown Formation
211MLRW	Wenonah-Mount Laurel aquifer
211EGLS	Englishtown aquifer
211MRPA	Potomac-Raritan-Magothy aquifer system, undifferentiated
211MRPAU	Upper aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAM	Middle aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAL	Lower aquifer, Potomac-Raritan-Magothy aquifer system
211ODBG	Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system (Mercer, Middlesex, Monmouth Counties)
211FRNG	Farrington aquifer, Potomac-Raritan-Magothy aquifer system (Mercer, Middlesex, Monmouth Counties)
231BRCK	Brunswick Group, undifferentiated
231PSSC	Passaic Formation of Olsen (1980)
231SCKN	Stockton Formation
400PCMB	Precambrian Erathem

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bedload is the sediment which moves along in essentially continuous contact with the streambed by rolling, sliding, and making brief excursions into the flow a few diameters above the bed.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic invertebrates are invertebrate animals inhabiting the bottoms of lakes, streams, and other water bodies. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m°), and periphyton and benthic organisms in grams per square mile (g/m\).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuing-record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken one or more times daily.
3. When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile [$(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 um membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCo).

High tide is the maximum height reached by each rising tide.

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Low-tide is the minimum height reached by each falling tide.

Mean high or low tide is the average of all high or low tides, respectively, over a specified period.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (?g/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, ?g/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic-invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Deposition Program (NADP).

NJ-WRD well number is a hyphenated, 6-digit identification number which the U.S. Geological Survey assigned to all New Jersey wells in the Ground Water Site Inventory (GWSI) data base. This numbering system was developed in 1978 to simplify identification of wells. The first two digits are a code for the county in which the well is located, and the last four digits are a sequence number. Each well added to GWSI is assigned the next higher sequence number for the county in which the well is located. These NJ-WRD well numbers are being used now in the ground-water level descriptions, wells sampled for water-quality analyses, and on the corresponding location maps in these reports.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m\), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The partial-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (l x l0) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 10 radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and ar commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2/time)] for periphyton and macrophytes and [mg C/(m^3/time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O /(m^2/time)] for periphyton and macrophytes and [mg O /(m^3 time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater mangitude, usually expressed in years. May also be called recurrence interval.

River mile as used herein, is the distance above the mouth of Delaware Bay, measured along the center line of the navigation channel or the main stem of the Delaware River. River mile data were furnished by the Delaware River Basin Commission.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Screened interval is the length of well screen through which water enters a well, in feet below land surface.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (MA7CD10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artifical substrate is a device which is purposely placed in a stream or lake for colonization or organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. all areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filer or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexacenia
Species	Hexacenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water table is that surface in an unconfined ground-water body at which the pressure is atmospheric.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

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Zapecza, O.S., Voronin, L.M., and Martin, M., 1987, Ground-water-withdrawal and water-level data used to simulate regional flow in the major Coastal Plain aquifers of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4038, 120 p.

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

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1-D1. *Water temperature--influential factors, field measurement, and data presentation,* by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents,* by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations,* by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

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3-A1. *General field and office procedures for indirect discharge measurements,* by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

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3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 Pages.

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3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

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3-A11. *Measurement of discharge by moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A13. *Computation of continuous records of streamflow,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J. E. Reed: USGS-TWRI Book 3, Chapter B3. 1980. 106 pages.

3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

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4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

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4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for analysis of organic substances in water,* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples* edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

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5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sedments,* by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

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7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water,* by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages

8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

DISCONTINUED GAGING STATIONS

The following continuous-record streamflow stations in New Jersey have been discontinued or converted to partial-record stations. Daily streamflow records were collected and published for the period of record shown for each station.

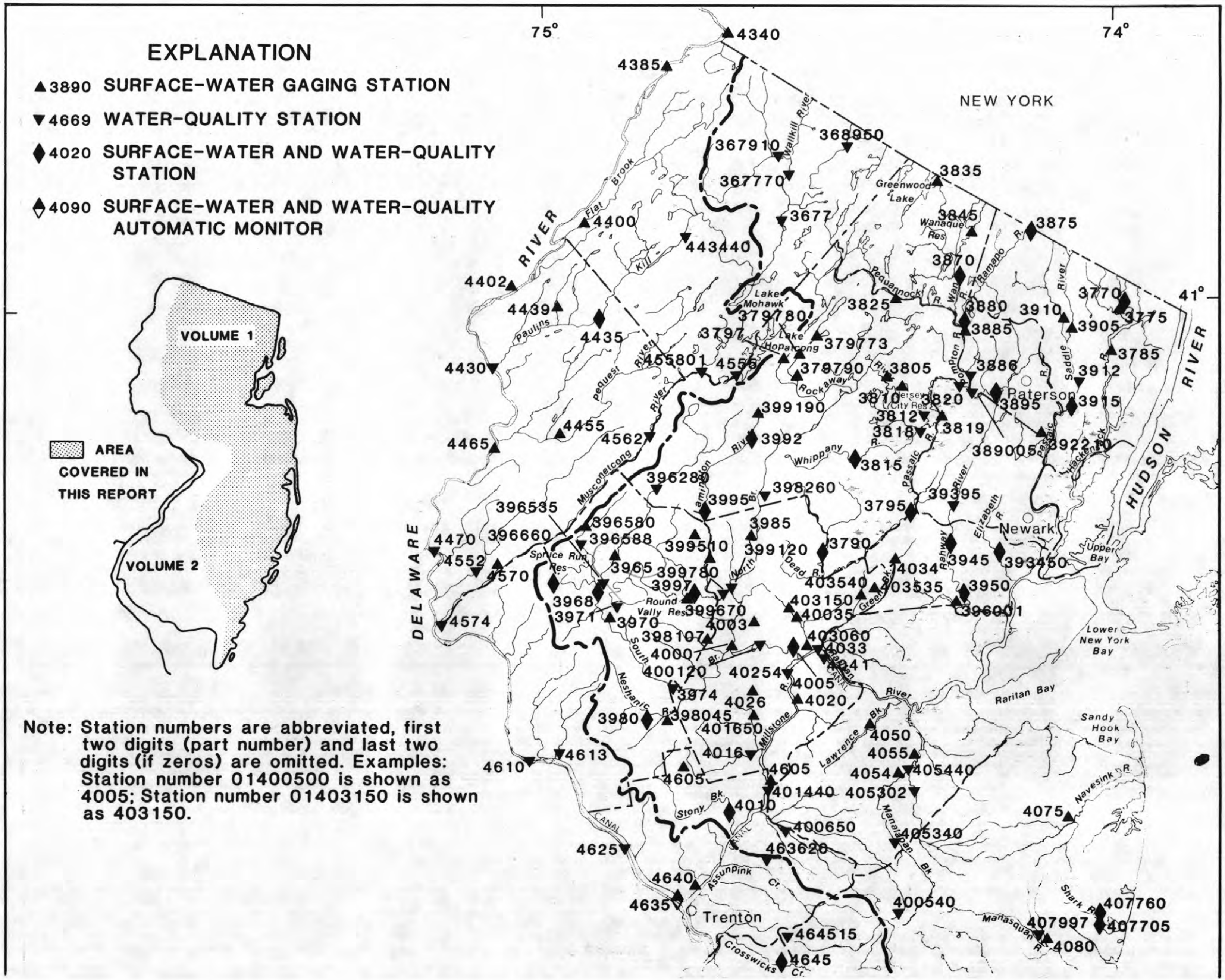
Station number	Station name	Drainage area (sq mi)	Period of record (water years)
01368720	Auxiliary outlet of Upper Greenwood Lake at Moe, NJ	------	1968-80
01378690	Passaic River near Bernardsville, NJ	8.83	1968-77
01379630	Russia Brook tributary at Milton, NJ	2.51	1969-71
01384000	Wanaque River at Monks, NJ	40.4	1935-85
01385000	Cupsaw Brook near Wanaque, NJ	4.37	1935-58
01385500	Erskine Brook near Wanaque, NJ	1.14	1934-38
01386000	West Brook near Wanaque, NJ	11.8	1935-78
01386500	Blue Mine Brook near Wanaque, NJ	1.01	1935-58
01389800	Passaic River at Paterson, NJ	785	1897-1955
01392000	Weasel Brook at Clifton, NJ	4.45	1937-62
01392500	Second River at Belleville, NJ	11.6	1938-64
01393000	Elizabeth River at Irvington, NJ	2.90	1931-38
01393500	Elizabeth River at Elizabeth, NJ	20.2	1922-73
01393800	EF EB Rahway River at West Orange, NJ	.83	1972-74
01394000	WB Rahway River at Millburn, NJ	7.10	1940-50
01395500	Robinsons Branch Rahway River at Goodmans, NJ	12.7	1921-24
01397500	Walnut Brook near Flemington, NJ	2.24	1936-61
01399000	NB Raritan River at Pluckimen, NJ	52.0	1903-06
01399690	SB Rockaway Creek at Whitehouse, NJ	13.2	1964-67
01399830	NB Raritan River at North Branch, NJ	174	1977-81
01400730	Millstone River at Plainsboro, NJ	65.8	1964-75
01400932	Baldwin Creek at Baldwin Lake, near Pennington, NJ	2.52	1963-70
01400953	Honey Branch near Pennington, NJ	.70	1967-75
01401301	Millstone River at Carnegie Lake, at Princeton, NJ	159	1972-74
01401500	Millstone River near Kingston, NJ	171	1934-49
01402590	Royce Brook tributary at Frankfort, NJ	.29	1969-74
01403000	Raritan River at Bound Brook, NJ	779	1903-09, 1945-66
01403500	Green Brook at Plainfield, NJ	9.75	1938-84
01403900	Bound Brook at Middlesex, NJ	48.4	1972-77
01404000	Bound Brook at Bound Brook, NJ	49.0	1923-30
01404500	Lawrence Brook at Patricks Corner, NJ	29.0	1922-26
01405300	Matchaponix Brook at Spotswood, NJ	43.9	1957-67
01406000	Deep Run near Browntown, NJ	8.07	1932-40
01406500	Tennent Brook near Browntown, NJ	5.25	1932-41
01407000	Matawan Creek at Matawan, NJ	6.11	1932-55
01408140	SB Metedeconk River at Lakewood, NJ	26.0	1973-76
01409000	Cedar Creek at Lanoka Harbor, NJ	55.3	1933-58, 1971
01409095	Oyster Creek near Brookville, NJ	7.43	1965-84
01410500	Absecon Creek at Absecon, NJ	17.9	1946-85
01410787	Great Egg Harbor River tributary at Sicklerville, NJ	1.64	1972-79
01410810	Fourmile Branch at New Brooklyn, NJ	7.74	1973-79
01410820	Great Egg Harbor River near Blue Anchor, NJ	37.3	1972-79
01412000	Menantico Creek near Millville, NJ	23.2	1931-57, 1978-85
01412500	WB Cohansey River at Seeley, NJ	2.58	1951-67
01413000	Loper Run near Bridgeton, NJ	2.34	1937-59
01444000	Paulins Kill at Columbia, NJ	179	1908-09
01445000	Pequest River at Huntsville, NJ	31.0	1940-62
01445430	Pequest River at Townsbury, NJ	92.5	1977-80
01446000	Beaver Brook near Belvidere, NJ	36.7	1923-61
01455160	Brass Castle Creek near Washington, NJ	2.34	1970-83
01455200	Pohatcong Creek at New Village, NJ	33.3	1960-70
01455355	Beaver Brook near Weldon, NJ	1.72	1969-71
01455500	Musconetcong River at outlet of Lake Hopatcong, NJ	25.3	1961-75
01456000	Musconetcong River near Hackettstown, NJ	68.9	1922-74
01457500	Delaware River at Riegelsville, NJ	6328	1906-71
01462000	Delaware River at Lambertville, NJ	6680	1898-1906
01463587	New Sharon Run at Carsons Mills, NJ	6.63	1976-77
01463620	Assunpink Creek near Clarksville, NJ	34.3	1972-82
01463657	Shipetaukin Creek tributary at Lawrenceville, NJ	.78	1976-77
01463690	Little Shabakunk Creek at Bakersville, NJ	3.98	1976-77
01464525	Thornton Creek at Bordentown, NJ	.84	1976-77
01465850	SB Rancocas Creek at Vincentown, NJ	64.5	1961-75
01466000	MB Mount Misery Brook in Lebanon State Forest, NJ	2.82	1953-65, 1977
01467019	Mill Creek near Willingboro, NJ	4.12	1975-78
01467021	Mill Creek at Levitt Parkway, at Willingboro, NJ	9.12	1975-77
01476600	Still Run near Mickleton, NJ	3.98	1957-66
01477500	Oldmans Creek near Woodstown, NJ	18.5	1932-40
01482500	Salem River at Woodstown, NJ	14.6	1940, 1941-85
01483000	Alloway Creek at Alloway, NJ	20.3	1953-72

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS

The following stations were discontinued as continuous water-quality stations prior to the 1987 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station.

Station number	Station name	Drainage area (sq mi)	Type of record	Period of record (water years)
01379500	Passaic River near Chatham, NJ	100	Sed.	1964-68
01379773	Green Pond Brook at Picatinny Arsenal, NJ		Temp., S.C., pH, D.O.	1983-86
01382000	Passaic River at Two Bridges, NJ	361	Temp., S.C., pH, D.O.	1969-74
01387500	Ramapo River near Mahwah, NJ	118	Sed.	1964-65
01389000	Pompton River near Two Bridges, NJ	372	Temp., S.C., pH, D.O.	1969-74
01389500	Passaic River at Little Falls, NJ	762	Sed.	1964-65
			Temp., S.C.	1981-86
01396500	SB Raritan River near High Bridge, NJ	65.3	Temp.	1961-79
			S.C.	1969-79
01397000	SB Raritan River at Stanton, NJ	147	Temp., S.C.	1969-79
			Sed.	1960-63
01399690	SB Rockaway Creek at Whitehouse, NJ	13.2	Temp., S.C.	1977-78
			Sed.	1977
01399700	Rockaway Creek at Whitehouse, NJ	37.1	Temp., S.C.	1977-78
01400510	Raritan River near Manville, NJ	497	Temp., S.C., pH, D.O.	1968-74
01400932	Baldwin Creek at Baldwin Lake, near Pennington, NJ	2.52	Temp.	1963-66
			Sed.	1963-69
01401000	Stony Brook at Princeton, NJ	44.5	Sed.	1959-70
01402900	Millstone River near Manville, NJ	287	Temp., S.C., pH, D.O.	1968-74
01404100	Raritan River near South Bound Brook, NJ	862	Temp., S.C., pH, D.O.	1969-77
01408000	Manasquan River at Squankum, NJ	44	Temp., S.C., pH, D.O.	1969-74
01408500	Toms River near Toms River, NJ	123	Temp., S.C.	1964-66, 1975-81
			S.C.	1975-81
01409095	Oyster Creek near Brookville, NJ	7.43	Temp., D.O.	1975-76
			S.C., pH	1975-77
01409810	WB Wading River near Jenkins, NJ	84.1	Temp., S.C.	1978-81
01410787	Great Egg Harbor River trib. at Sicklerville, NJ	1.64	Sed.	1974-78
01410810	Fourmile Branch at New Brooklyn, NJ	7.74	Sed.	1974-78
01411000	Great Egg Harbor River at Folsom, NJ	57.1	Temp.	1961-80
01411500	Maurice River at Norma, NJ		Temp., S.C.	1980-86
01440200	Delaware River near Delaware Water Gap, Pa.	3850	Sed.	1964-65, 1972
01442750	Delaware River at Dunnfield, NJ	4150	Sed.	1966-76
01463500	Delaware River at Trenton, NJ	6780	Sed.	1949-82
01464040	Delaware River at Marine Terminal, at Trenton, NJ	6870	Temp., S.C.	1973-76
01464500	Crosswicks Creek near Extonville, NJ	81.5	Sed.	1965-70
01467016	Rancocas Creek at Willingboro, NJ	315	Temp., S.C., pH	1969-74
			D.O.	1970-72
			pH	1970-74
01467150	Cooper River at Haddonfield, NJ	17.0	Sed.	1968-69
01477120	Raccoon Creek near Swedesboro, NJ	26.9	Temp.	1966-73
			Sed.	1966-69

Type of record: Temp. (temperature), S.C. (specific conductance), pH (pH), D.O. (dissolved oxygen), Sed. (sediment).


EXPLANATION
▲3890 SURFACE-WATER GAGING STATION
▼4669 WATER-QUALITY STATION
◆4020 SURFACE-WATER AND WATER-QUALITY STATION
◆4090 SURFACE-WATER AND WATER-QUALITY AUTOMATIC MONITOR
VOLUME 1
VOLUME 2
AREA COVERED IN THIS REPORT
Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01400500 is shown as 4005; Station number 01403150 is shown as 403150.
75°
74°
41°
NEW YORK
DELAWARE
RIVER
HUDSON
RIVER
Paterson
Newark
Trenton
Lake Mohawk
Lake Hopatcong
Greenwood Lake
Wanaque Res
Spruce Run Res
Round Vally Res
Upper Bay
Lower New York Bay
Raritan Bay
Sandy Hook Bay
Flat Brook
Paulins Kill
Pequest River
Musconetcong River
Wallkill River
Pequannock R
Ramapo R.
Saddle R.
Passaic R.
Whippany R.
Rockaway R.
Elizabeth R.
Rahway R.
Dead R.
North Br.
South Br.
Raritan R.
Millstone R.
Neshanic R.
Stony Bk.
Assunpink Cr.
Crosswicks Cr.
Manalapan Bk.
Lawrence Bk.
Green Bk.
Navesink R.
Shark R.
Manasquan R.
CANAL
4340
4385
368950
367910
367770
3835
3677
3845
3875
443440
4400
4402
4439
4435
4430
3870
3825
379780
379773
379790
3880
3885
3910
3905
3770
3775
3785
455801
4556
3805
3886
3912
3915
3820
3895
399190
3812
3818
3819
4455
4465
4562
3992
389005
3922
3815
396280
398260
3795
39395
396535
3995
396580
396660
396588
3985
4470
399510
399120
3790
3945
393450
4552
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3965
399780
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4010
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464515
4645

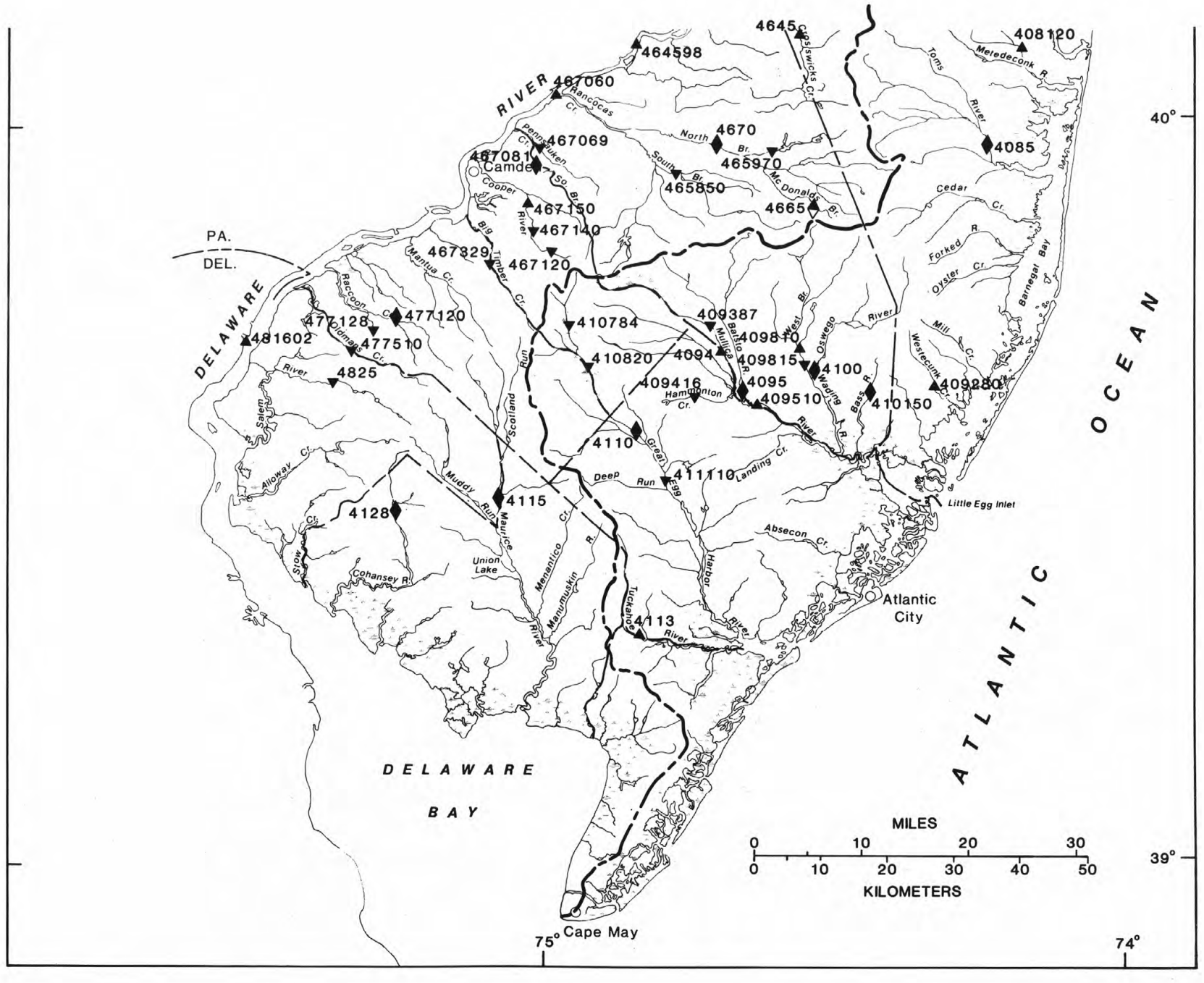
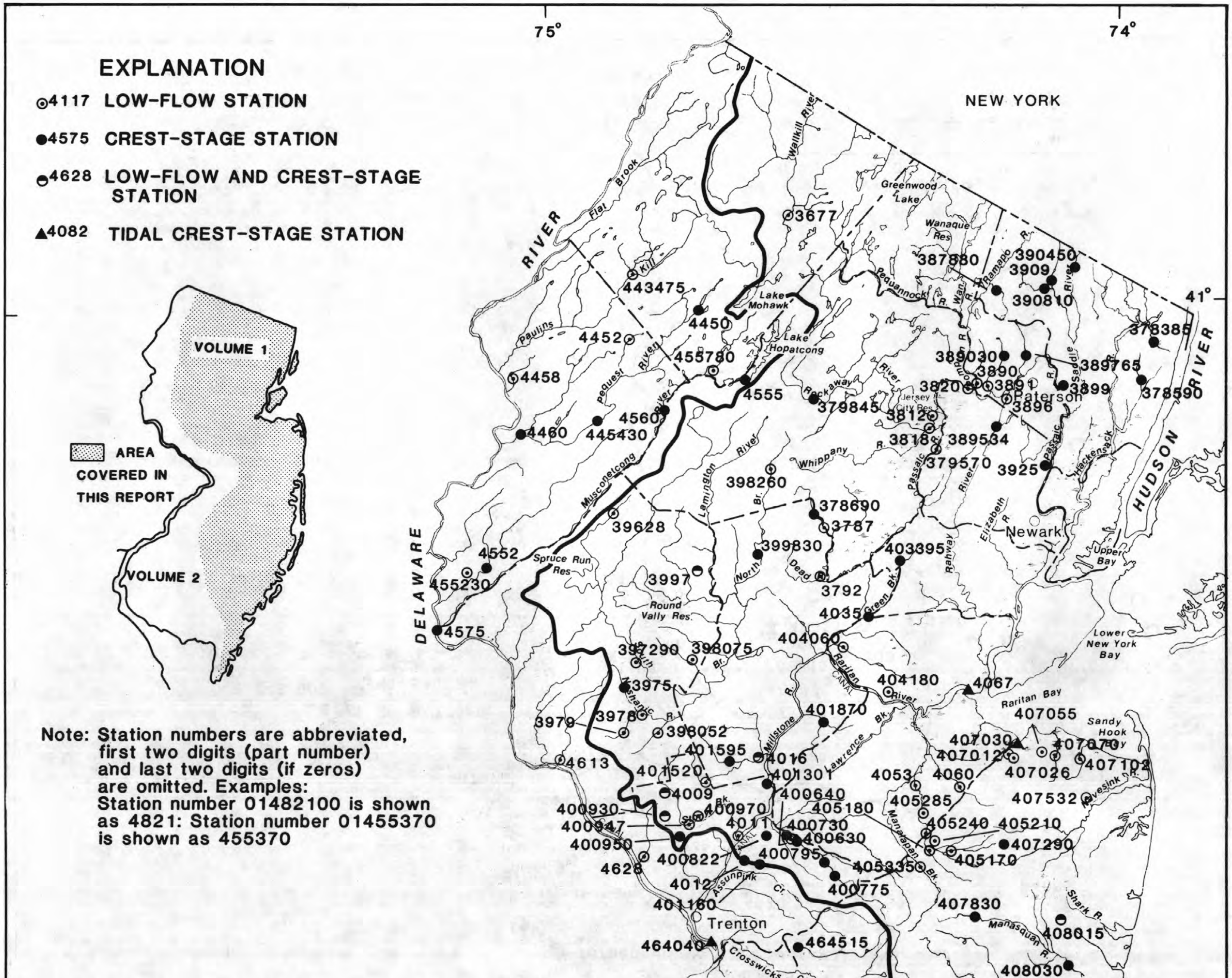


Figure 10.--Map showing location of gaging stations and surface-water quality stations.


EXPLANATION
4117 LOW-FLOW STATION
4575 CREST-STAGE STATION
4628 LOW-FLOW AND CREST-STAGE STATION
4082 TIDAL CREST-STAGE STATION
VOLUME 1
VOLUME 2
AREA COVERED IN THIS REPORT
Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01482100 is shown as 4821: Station number 01455370 is shown as 455370
75°
74°
41°
NEW YORK
DELAWARE RIVER
HUDSON RIVER
Greenwood Lake
Wanaque Res
Lake Mohawk
Lake Hopatcong
Spruce Run Res
Round Vally Res.
Paterson
Newark
Trenton
Upper Bay
Lower New York Bay
Raritan Bay
Sandy Hook Bay
Flat Brook
Kill
Paulins
Pequest River
Musconetcong River
Lamington River
Wallkill River
Rockaway River
Whippany
Passaic River
Pequannock R.
Ramapo R.
Saddle R.
Hackensack
Rahway
Elizabeth R.
North Br.
Green Bk.
Dead R.
Raritan Canal
Millstone R.
Lawrence Bk.
Manalapan Bk.
Assunpink Cr.
Crosswicks Cr.
Navesink R.
Shark R.
Manasquan R.
3677
387880
390450
3909
390810
378385
443475
4450
4452
455780
4458
4555
379845
389030
3890
3820
3891
3896
389765
3899
378590
4560
4460
445430
3812
3818
389534
379570
3925
398260
378690
3787
39628
4552
455230
399830
403395
3997
3792
4035
4575
404060
397290
398075
3975
404180
4067
401870
407055
3979
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398052
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4016
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407012
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400930
400947
400970
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400730
405240
405210
400950
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464515
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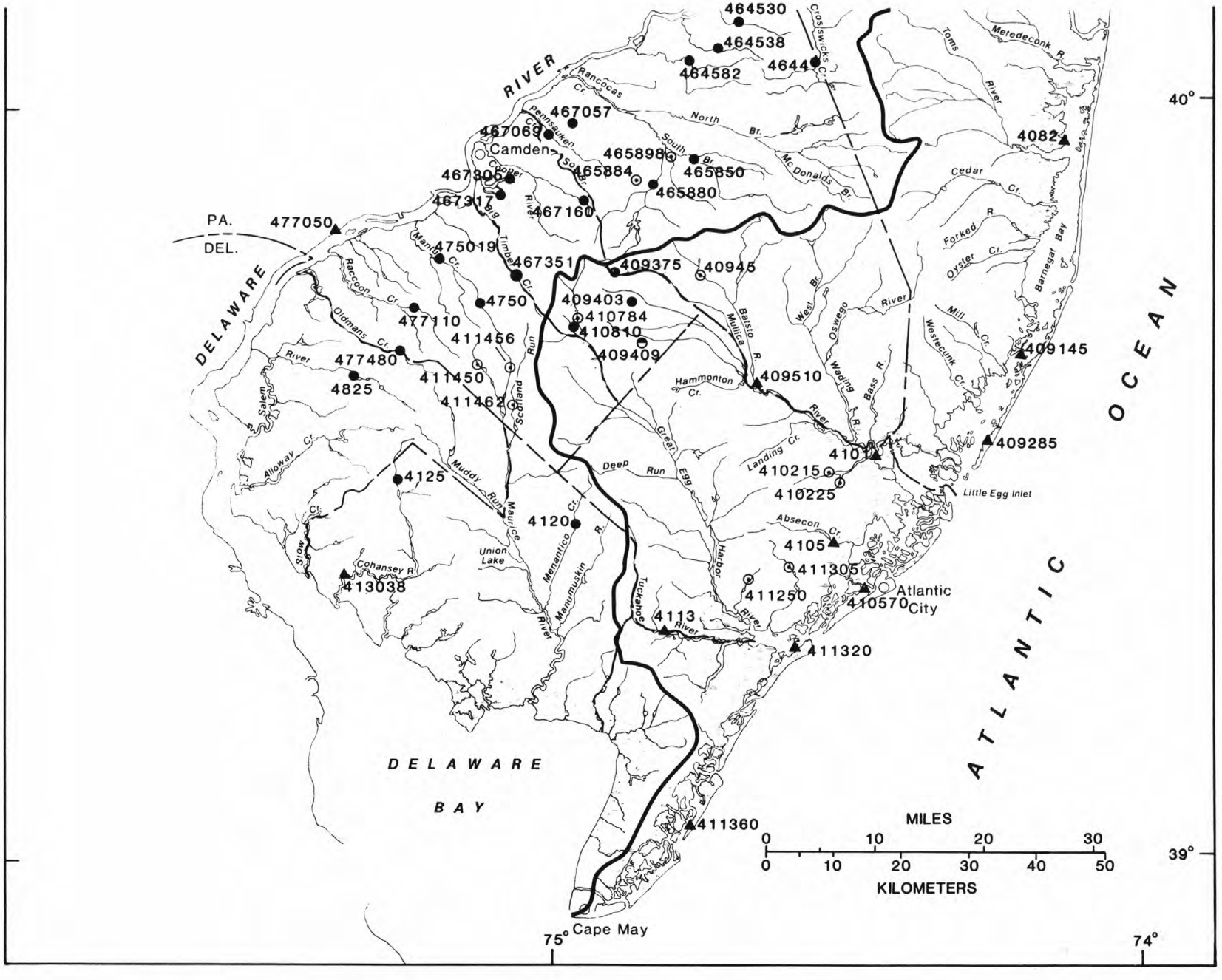
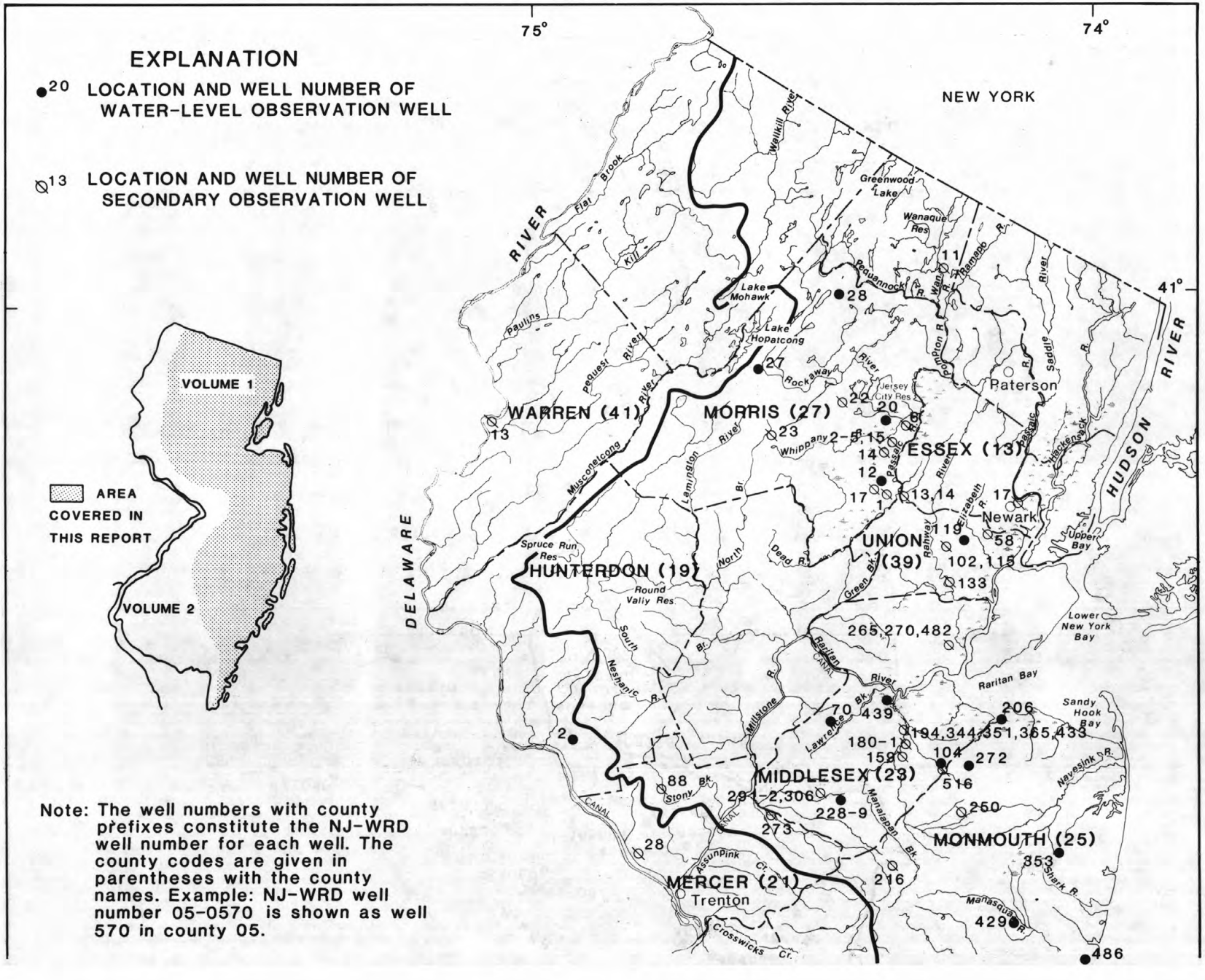


Figure 11.--Map showing location of low-flow and crest-stage partial-record stations.



Note: The well numbers with county prefixes constitute the NJ-WRD well number for each well. The county codes are given in parentheses with the county names. Example: NJ-WRD well number 05-0570 is shown as well 570 in county 05.

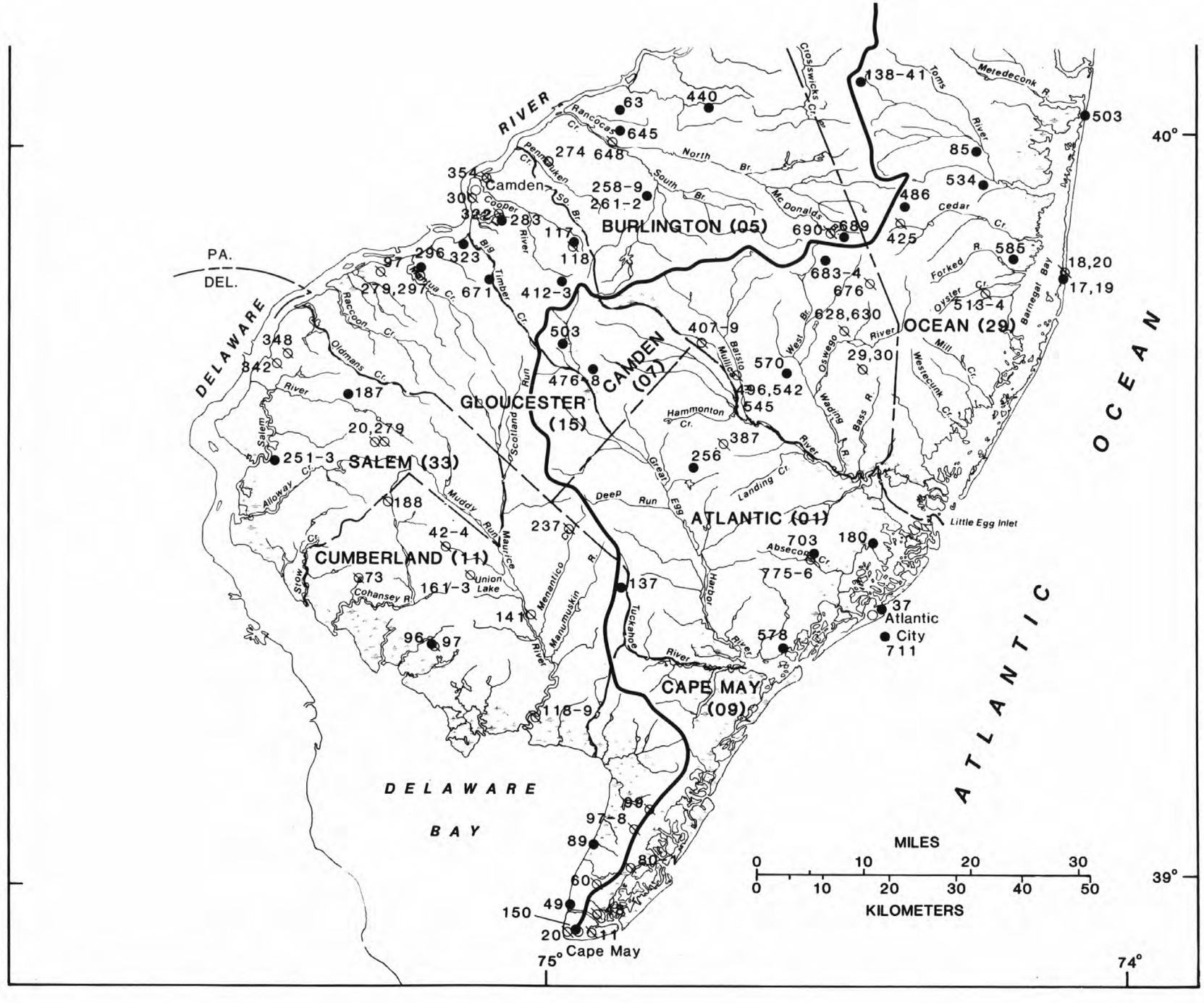
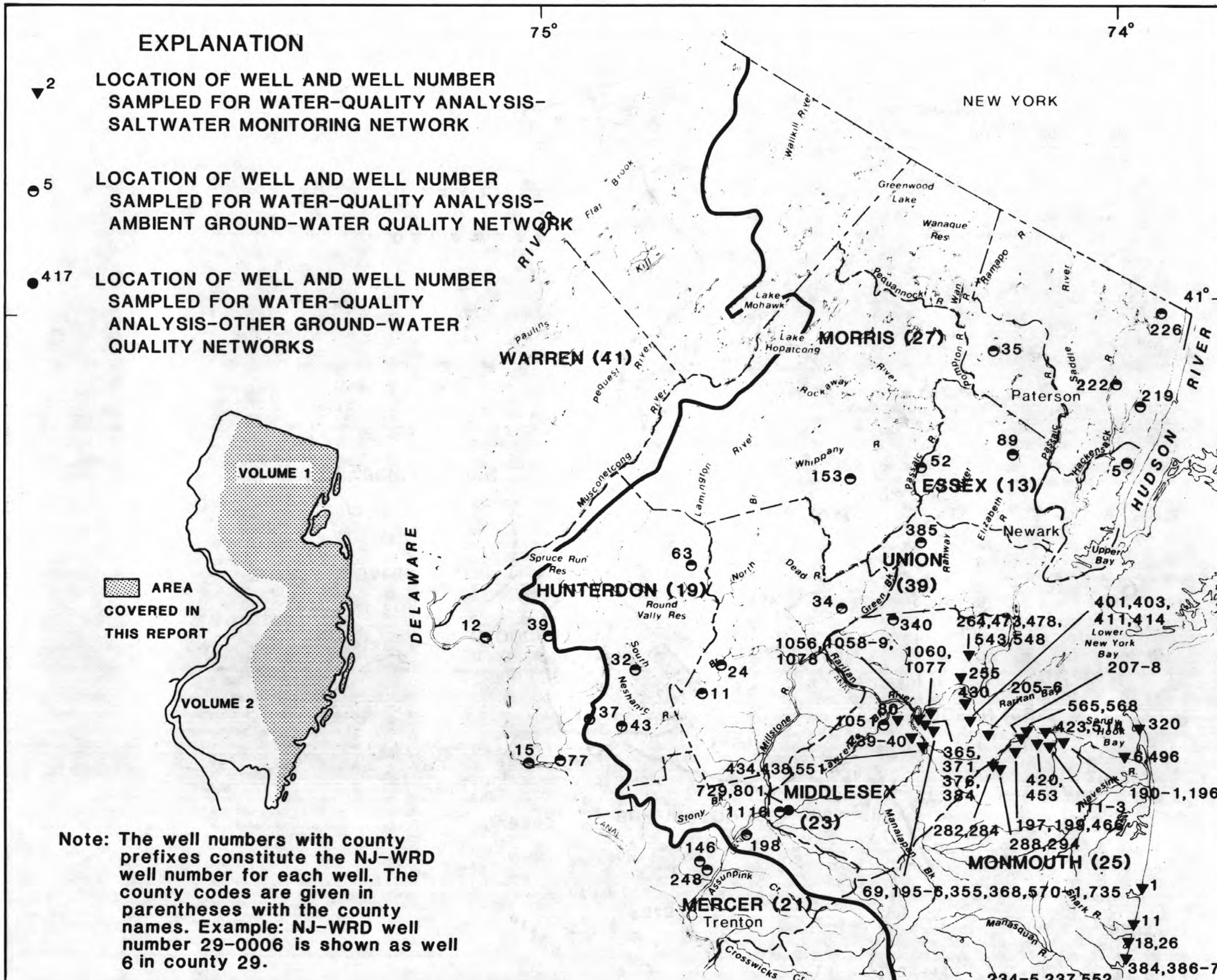


Figure 12.--Map showing location of ground-water observation wells.


EXPLANATION
▼2 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-SALTWATER MONITORING NETWORK
⊖5 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-AMBIENT GROUND-WATER QUALITY NETWORK
●417 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-OTHER GROUND-WATER QUALITY NETWORKS
VOLUME 1
VOLUME 2
AREA COVERED IN THIS REPORT
Note: The well numbers with county prefixes constitute the NJ-WRD well number for each well. The county codes are given in parentheses with the county names. Example: NJ-WRD well number 29-0006 is shown as well 6 in county 29.
75°
74°
41°
NEW YORK
WARREN (41)
MORRIS (27)
HUNTERDON (19)
ESSEX (13)
UNION (39)
MIDDLESEX (23)
MONMOUTH (25)
MERCER (21)
DELAWARE RIVER
HUDSON RIVER
Paterson
Newark
Trenton
Lake Hopatcong
Lake Mohawk
Greenwood Lake
Wanaque Res
Spruce Run Res
Round Vally Res
Upper Bay
Lower New York Bay
Raritan Bay
Sandy Hook Bay
12
39
63
34
32
37
43
15
77
24
11
146
248
198
1116
729,801
434,438,551
439-40
1051
80
1056,1058-9, 1078
1060, 1077
340
264,473,478, 543,548
255
430
385
153
52
89
35
226
222
219
5
401,403, 411,414
207-8
205-6
565,568
423,5
320
6,496
365, 371, 376, 384
420, 453
190-1,196
111-3
282,284
197,199,466
288,294
69,195-6,355,368,570-1,735
1
11
18,26
384,386-7
234-5,237,552
29,30

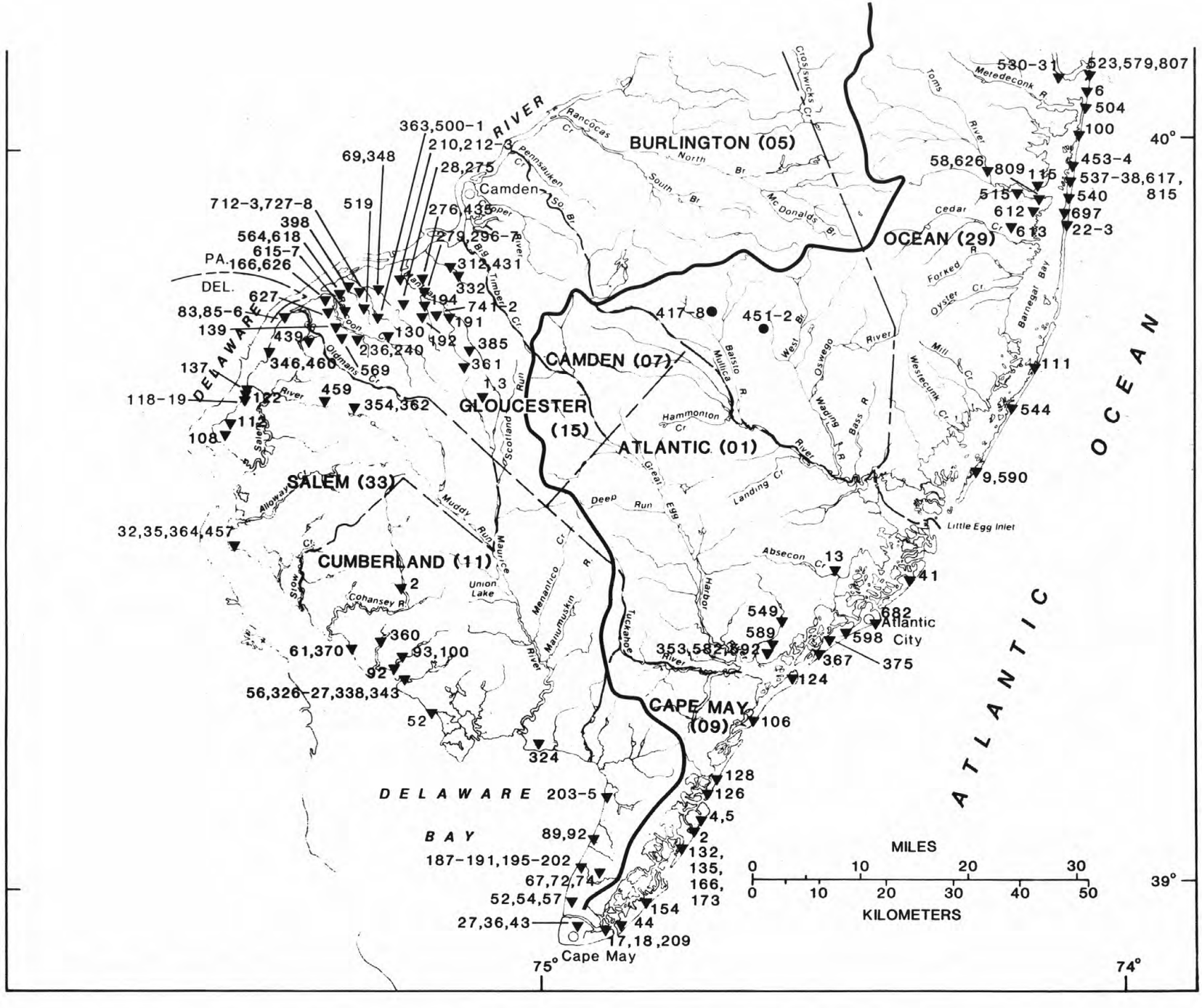


Figure 13.--Map showing locations of ground-water quality stations.

HUDSON RIVER BASIN

01367700 WALLKILL RIVER AT FRANKLIN, NJ

LOCATION.--Lat 41°06'43", long 74°35'21", Sussex County, Hydrologic Unit 02020007, at bridge 120 ft downstream from dam at outlet of Franklin Pond in Franklin, and 0.8 mi upstream from Wildcat Brook.

DRAINAGE AREA.--29.4 mi^2.

PERIOD OF RECORD.--Water years 1959-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPM method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
13...	1230	E30	336	8.1	5.0	11.4	90	E2.3	790	920
MAR 1987										
04...	1245	E162	402	8.1	1.0	15.3	109	--	20	46
APR										
07...	1045	E515	223	7.7	7.5	11.9	103	<0.9	2200	540
JUN										
11...	1245	E15	364	8.0	19.0	9.1	100	E2.0	5400	920
JUL										
21...	1330	E15	361	7.8	22.5	8.9	105	E1.3	330	220
AUG										
27...	1300	E13	490	7.8	19.0	8.5	93	2.3	20	43

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
13...	110	26	11	23	1.4	79	19	43	<0.1
MAR 1987									
04...	97	24	8.9	29	1.0	68	18	57	0.1
APR									
07...	70	18	6.2	17	0.9	52	13	29	<0.1
JUN									
11...	140	33	13	24	1.4	111	14	47	0.1
JUL									
21...	140	33	14	28	1.4	110	14	51	0.2
AUG									
27...	160	36	17	31	1.9	133	16	60	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
13...	6.7	180	0.005	1.83	0.06	0.95	2.8	0.038	6.7
MAR 1987									
04...	7.6	190	0.009	0.57	0.05	0.42	0.99	0.027	3.4
APR									
07...	6.4	120	0.011	0.21	0.07	0.49	0.70	<0.020	4.9
JUN									
11...	5.6	200	0.016	0.36	<0.05	0.64	1.0	0.035	4.1
JUL									
21...	7.0	210	0.012	0.35	0.11	0.77	1.1	0.090	6.1
AUG									
27...	5.6	250	0.012	0.18	0.06	0.65	0.83	0.030	4.3

01367700 WALLKILL RIVER AT FRANKLIN, NJ--Continued

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1986												
13...	1230	<0.5	--	--	--	10	5	--	<10	40	<1	--
13...	1230	--	90	32	38	--	--	21	--	--	--	7

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1986											
13...	<10	--	--	6	--	330	--	73	--	60	--
13...	--	4	10	--	10	--	5200	--	150	--	3500

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
13...	<0.10	--	1	--	<1	--	20	--	2	--	--
13...	--	0.07	--	20	--	<1	--	2400	--	<1	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	<0.1	<1.0	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01367770 WALLKILL RIVER NEAR SUSSEX, NJ

LOCATION.--41°11'38", long 74°34'32", Sussex County, Hydrologic Unit 02020007, at bridge on Glenwood Road, 0.8 mi upstream of Papakating Creek, 1.7 mi southwest of Independence Corner, 2.0 mi southeast of Sussex, and 2.1 mi northwest of McAfee.

DRAINAGE AREA.--60.8 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
13...	1030	E62	398	8.1	4.5	11.4	88	E1.8	490	540
MAR 1987										
04...	1100	E174	435	8.1	1.0	13.0	92	<0.7	170	540
APR										
07...	1215	E355	224	7.5	8.5	10.0	88	<0.8	700	240
JUN										
11...	1100	E40	445	8.0	16.0	8.8	90	E1.9	1700	540
JUL										
21...	1200	E40	407	7.8	22.0	7.5	87	<0.7	230	920
AUG										
27...	1100	E37	562	7.7	16.5	8.2	85	E1.5	3500	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
13...	140	33	14	21	2.1	116	23	40	<0.1
MAR 1987									
04...	140	33	13	23	1.3	107	20	44	0.1
APR									
07...	82	20	7.9	14	1.0	66	15	22	<0.1
JUN									
11...	190	44	20	24	2.0	164	18	46	0.2
JUL									
21...	180	41	18	25	2.1	149	17	44	0.1
AUG									
27...	200	45	22	29	4.5	164	26	53	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
13...	7.6	210	0.015	0.56	0.15	1.0	1.6	0.038	5.3
MAR 1987									
04...	7.5	210	0.010	0.85	0.18	0.64	1.5	0.033	3.5
APR									
07...	7.3	130	0.012	0.27	0.07	0.34	0.61	<0.020	5.2
JUN									
11...	7.6	260	0.018	1.70	0.12	0.65	2.4	0.051	3.8
JUL									
21...	7.1	240	0.033	1.07	0.08	0.77	1.8	0.100	4.9
AUG									
27...	6.6	280	0.021	3.17	0.08	1.0	4.2	0.130	6.2

01367770 WALLKILL RIVER NEAR SUSSEX, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1986 13...	1030	--	230	2.0	5.7	--	--	6	--	--	--	<1
JUN 1987 11...	1100	<0.5	--	--	--	<10	2	--	<10	30	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1986 13...	--	6	<10	--	3	--	4100	--	10	--	310
JUN 1987 11...	10	--	--	3	--	620	--	7	--	120	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986 13...	--	0.08	--	<10	--	<1	--	220	--	14	<1.0
JUN 1987 11...	<0.10	--	3	--	<1	--	30	--	3	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986 13...	<0.1	<1.0	0.2	0.3	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
JUN 1987 11...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986 13...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987 11...	--	--	--	--	--	--	--	--	--	--	--

01367910 PAPAKATING CREEK AT SUSSEX, NJ

LOCATION.--41°12'02", long 74°35'59", Sussex County, Hydrologic Unit 02020007, at bridge on State Route 23 in Sussex, 0.7 mi downstream from Clove Brook, 2.6 mi southwest of Independence Corner, and 3.4 mi northwest of McAfee.

DRAINAGE AREA.--59.4 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for Laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
05...	1100	E9.6	332	7.8	6.0	9.5	77	E2.0	460	70
FEB 1987										
05...	1330	E58	327	7.5	0.0	11.2	77	<0.8	330	46
MAR										
17...	1300	E102	252	7.6	3.5	12.3	94	<0.7	80	33
JUN										
10...	1230	E23	316	7.5	17.0	7.4	77	E1.8	1400	130
JUL										
22...	1300	E18	338	7.1	24.0	5.4	65	E1.2	3500	110
AUG										
27...	1000	E18	262	7.2	17.0	7.3	76	4.8	9200	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
05...	120	37	5.5	15	2.6	80	24	30	<0.1
FEB 1987									
05...	85	27	4.3	20	1.8	47	24	40	<0.1
MAR									
17...	70	22	3.7	13	1.4	40	23	23	<0.1
JUN									
10...	120	38	5.2	16	2.7	78	23	31	<0.1
JUL									
22...	120	40	5.8	18	2.7	85	29	30	0.1
AUG									
27...	85	27	4.2	12	3.2	51	28	20	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
05...	5.7	170	0.026	0.57	0.17	1.2	1.8	0.110	4.2
FEB 1987									
05...	7.5	150	0.012	1.21	0.21	0.74	2.0	0.049	5.2
MAR									
17...	5.5	120	0.014	1.33	0.15	0.61	1.9	0.027	3.0
JUN									
10...	8.0	170	0.079	1.30	0.49	0.50	1.8	<0.020	4.1
JUL									
22...	5.9	180	0.080	1.10	0.19	1.0	2.1	0.220	6.8
AUG									
27...	3.0	130	0.106	1.13	0.76	1.9	3.0	0.660	8.7

01367910 PAPAKATING CREEK AT SUSSEX, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 10...	1230	<10	<1	<10	20	<1	<10	8

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 10...	480	12	160	<0.10	3	<1	<10	2

01368950 BLACK CREEK NEAR VERNON, NJ

LOCATION.--Lat 41°13'21", long 74°28'33", Sussex County, Hydrologic Unit 02020007, at bridge on Maple Grange road, 0.6 mi upstream of confluence with Wawayanda Creek, 0.7 mi northwest of Maple Grange, and 1.7 mi northeast of Vernon.

DRAINAGE AREA.--17.3 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for Laboratory analyses provided by New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
05...	1300	E6.0	806	8.1	5.0	11.0	87	4.6	490	540
FEB 1987										
05...	1100	E22	706	7.7	0.5	11.8	82	<0.5	50	79
MAR										
17...	1100	E33	536	7.9	3.5	12.5	95	E1.4	80	79
JUN										
10...	1045	E11	525	7.5	17.5	6.1	64	<1.1	2400	920
JUL										
22...	1100	E9.5	--	7.5	25.0	6.4	--	<0.8	790	210
AUG										
27...	1200	E9.5	678	6.9	17.0	6.8	71	E2.0	16000	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
05...	280	65	28	48	2.1	232	24	87	0.1
FEB 1987									
05...	240	56	24	44	1.5	189	26	82	0.1
MAR									
17...	190	44	20	25	1.2	159	19	48	0.1
JUN									
10...	230	55	23	33	1.1	208	14	62	0.2
JUL									
22...	230	51	24	39	2.0	192	16	72	0.2
AUG									
27...	220	48	24	44	3.1	183	22	84	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
05...	6.4	400	0.019	0.68	0.09	0.68	1.4	0.200	6.1
FEB 1987									
05...	8.1	360	0.013	1.08	0.10	0.61	1.7	0.031	4.8
MAR									
17...	5.3	260	0.013	0.75	0.10	0.70	1.5	<0.020	3.6
JUN									
10...	8.3	320	0.029	0.56	0.16	0.88	1.4	0.077	5.8
JUL									
22...	9.0	330	0.017	0.71	0.13	0.92	1.6	0.140	6.3
AUG									
27...	6.5	340	0.033	1.03	0.14	1.0	2.1	0.130	5.7

01368950 BLACK CREEK NEAR VERNON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
NOV 1986 05...	1300	<0.5	10	<1	<10	10	<1	<10	13

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
NOV 1986 05...	460	25	70	<0.10	4	<1	20	3

01376800 HACKENSACK RIVER AT WEST NYACK, NY

LOCATION.--Lat 41°05'44", long 73°57'52", Rockland County, Hydrologic Unit 02030103, on right bank 20 ft downstream from Penn Central Transportation Co. railroad bridge at West Nyack, 1,000 ft upstream from State Highway 59, and 1.0 mi downstream from DeForest Lake.

DRAINAGE AREA.--29.4 mi^2.

PERIOD OF RECORD.--December 1958 to current year.

GAGE.--Water-stage recorder, stop-log control, and crest-stage gage. Datum of gage is 53.50 ft above National Geodetic Vertical Datum of 1929 (levels by Hackensack Water Co.).

REMARKS.--No estimated daily discharges. Records good except those for periods of sluggish intake action, Dec. 4-July 15, which are poor. Flow regulated by DeForest Lake (see Reservoirs in Hackensack River Basin). Diversion from gaging station pool for municipal supply for village of Nyack (see Diversions in Hackensack River Basin). Discharge given for this station represents the flow of Hackensack River downstream from this diversion. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft^3/s, Feb. 3, 1973, gage height, 9.38 ft, from floodmarks, from rating curve extended above 840 ft^3/s; maximum gage height, 10.52 ft, May 30, 1984; minimum daily discharge, 2.6 ft^3/s, June 12, 1965, Sept. 25, 26, 30, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft^3/s, Apr. 4, gage height, 9.81 ft; minimum daily, 9.9 ft^3/s, Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	11	24	38	46	159	375	55	15	12	13	16
2	16	11	18	115	44	284	114	50	14	16	16	15
3	16	11	130	143	47	124	89	51	14	15	21	16
4	21	11	123	91	52	90	595	87	15	13	15	16
5	14	11	82	72	51	75	577	94	16	13	51	18
6	14	18	66	55	47	64	335	71	14	13	62	18
7	13	12	57	49	45	62	283	63	13	15	21	24
8	13	20	54	47	49	63	163	56	13	20	17	29
9	13	16	57	43	55	64	121	47	13	14	18	41
10	13	13	65	43	49	55	103	43	13	13	29	18
11	12	22	59	64	44	45	92	39	13	13	17	17
12	13	17	58	64	43	42	85	37	14	13	16	18
13	13	12	55	60	41	44	188	33	14	13	16	50
14	18	11	43	51	33	41	109	28	13	21	16	25
15	15	10	38	51	32	39	85	30	13	19	15	16
16	14	11	36	54	30	40	78	32	12	12	15	15
17	13	11	35	49	28	37	110	24	12	12	15	20
18	13	12	44	49	27	35	199	24	12	12	15	23
19	13	21	95	72	25	32	109	29	14	13	16	22
20	13	16	80	77	24	32	89	27	14	15	15	17
21	15	78	65	65	24	30	77	26	26	12	16	17
22	12	18	52	65	25	33	70	21	14	12	16	16
23	9.9	15	45	70	30	28	58	17	13	11	15	15
24	11	15	41	60	31	23	79	16	13	12	16	15
25	11	15	95	50	31	22	158	12	11	12	15	16
26	14	45	99	48	30	23	101	11	13	13	16	15
27	13	45	72	42	30	24	76	10	23	13	27	15
28	12	19	60	38	29	31	76	13	16	13	25	16
29	11	16	51	36	---	32	70	13	13	13	24	16
30	11	17	49	38	---	31	65	13	13	12	17	17
31	11	---	44	47	---	459	---	13	---	13	16	---
TOTAL	416.9	560	1892	1846	1042	2163	4729	1085	426	423	622	592
MEAN	13.4	18.7	61.0	59.5	37.2	69.8	158	35.0	14.2	13.6	20.1	19.7
MAX	21	78	130	143	55	459	595	94	26	21	62	50
MIN	9.9	10	18	36	24	22	58	10	11	11	13	15

CAL YR 1986 TOTAL 12430.9 MEAN 34.1 MAX 304 MIN 9.9
WTR YR 1987 TOTAL 15796.9 MEAN 43.3 MAX 595 MIN 9.9

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

LOCATION.--Lat 40°59'55", long 73°59'27", Bergen County, Hydrologic Unit 02030103, on upstream right bank at bridge on Westwood Avenue in Rivervale, 1.5 mi upstream from Pascack Brook, 4.6 mi upstream from Oradell Dam, and 27.2 mi upstream from mouth.

DRAINAGE AREA.--58.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WDR-NJ-80-1: 1968-79(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 22.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by De Forest Lake and Lake Tappan (see Hackensack River basin, reservoirs in). Diversions from De Forest Lake and West Nyack, NY, for municipal water supply (see Hackensack River basin, diversions). Water occasionally diverted from Oradell Reservoir to Lake Tappan. Several measurements of water temperature, other than those published, were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

AVERAGE DISCHARGE.--46 years, 88.7 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft^3/s, May 30, 1984, gage height, 7.85 ft; no flow part of Jan. 16, 1970 and May 30, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,800 ft^3/s, Apr. 4, 5, gage height, 6.24 ft; minimum, 18 ft^3/s, Oct. 7, gage height 1.56 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	103	37	69	86	214	1060	101	32	44	127	43
2	87	103	40	275	84	547	386	91	32	46	123	39
3	89	104	109	297	92	314	176	90	33	51	116	38
4	65	103	42	190	103	179	752	155	36	46	73	37
5	24	104	38	146	100	147	1600	174	38	45	128	37
6	23	76	36	117	92	129	878	148	32	45	98	37
7	27	46	36	100	87	115	662	126	31	59	58	52
8	65	54	35	91	87	112	387	107	32	98	56	57
9	63	38	42	80	101	113	239	92	33	53	59	78
10	61	34	42	79	95	102	185	82	32	49	106	42
11	47	49	37	114	85	84	166	75	58	90	60	40
12	47	41	40	117	80	76	150	69	88	141	48	40
13	38	34	36	108	78	79	259	64	88	104	35	118
14	29	33	34	96	69	76	245	53	85	75	34	58
15	24	32	34	95	62	70	164	55	81	64	34	44
16	21	40	34	96	56	69	145	57	80	50	34	42
17	20	86	34	91	53	64	160	49	85	48	33	57
18	20	86	46	93	50	60	344	46	94	47	33	61
19	20	108	50	132	48	56	248	54	118	47	33	53
20	39	71	38	143	46	54	170	51	139	48	32	45
21	63	129	36	125	45	52	147	48	137	48	32	44
22	65	39	35	122	46	52	130	45	81	47	35	43
23	65	36	34	134	54	51	113	43	55	47	71	42
24	63	38	35	112	58	47	113	42	54	47	71	42
25	65	36	66	124	56	44	217	39	78	53	90	43
26	66	96	39	86	55	43	208	37	113	129	110	41
27	50	110	43	96	54	42	150	36	115	112	95	41
28	48	41	60	86	54	53	141	35	53	112	64	41
29	53	39	71	71	---	56	129	34	47	114	48	40
30	84	38	74	71	---	53	117	33	45	132	40	41
31	93	---	73	88	---	438	---	31	---	131	39	---
TOTAL	1611	1947	1406	3644	1976	3591	9841	2162	2025	2222	2015	1436
MEAN	52.0	64.9	45.4	118	70.6	116	328	69.7	67.5	71.7	65.0	47.9
MAX	93	129	109	297	103	547	1600	174	139	141	128	118
MIN	20	32	34	69	45	42	113	31	31	44	32	37

CAL YR 1986 TOTAL 26651 MEAN 73.0 MAX 552 MIN 15
WTR YR 1987 TOTAL 33876 MEAN 92.8 MAX 1600 MIN 20

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1964 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
23...	1100	63	343	7.9	13.5	9.7	93	4.5	320	240
FEB 1987										
04...	1100	101	473	7.6	2.5	13.6	100	2.1	170	1600
APR										
15...	1130	163	349	8.0	12.0	10.8	101	3.9	130	130
JUN										
15...	1130	82	372	7.6	22.5	7.0	82	3.0	80	1700
JUL										
20...	1100	47	370	7.5	24.5	6.7	80	1.5	490	790
AUG										
26...	1100	110	--	7.9	22.0	8.3	--	4.2	220	490

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
23...	100	31	6.1	24	2.3	81	17	45	<0.1
FEB 1987									
04...	110	34	6.4	49	2.1	75	22	90	<0.1
APR									
15...	94	29	5.2	31	1.7	64	18	46	0.1
JUN									
15...	100	32	5.9	30	1.9	77	18	55	0.1
JUL									
20...	110	34	6.5	31	1.8	81	16	53	<0.1
AUG									
26...	91	27	5.8	28	2.0	70	16	52	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
23...	1.6	180	0.017	0.16	0.200	1.3	1.5	0.060	6.4
FEB 1987									
04...	3.5	250	0.009	0.67	0.210	0.88	1.5	0.061	7.0
APR									
15...	1.1	170	0.014	0.48	0.130	0.99	1.5	0.057	7.5
JUN									
15...	2.1	190	0.040	0.35	0.050	1.0	1.3	0.053	5.6
JUL									
20...	4.3	200	0.026	0.40	0.160	1.1	1.5	0.070	6.8
AUG									
26...	3.6	180	0.009	0.13	0.070	1.0	1.2	0.080	7.9

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)
OCT 1986 23...	1100	110	0.1	1.4	2	<1	3	<10	5	2900

DATE	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 23...	20	100	0.02	<10	<1	20	<1	<1.0	<0.1	<1.0

DATE	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1986 23...	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 23...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01377500 PASCACK BROOK AT WESTWOOD, NJ

LOCATION.--Lat 40°59'33", long 74°01'19", Bergen County, Hydrologic Unit 02030103, on right bank 75 ft upstream from Harrington Avenue in Westwood, 500 ft downstream from Musquapsink Brook, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--29.6 mi^2.

PERIOD OF RECORD.--October 1934 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 28.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Woodcliff Lake 3.0 mi above station (see Hackensack River basin, reservoirs in). Water diverted for municipal supply by Spring Valley Water Co., by pumpage from well fields in headwater area of Pascack Brook in vicinity of Spring Valley, NY, and by Park Ridge Water Department by pumping from wells above Woodcliff Lake probably reduces flow past this station. Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

AVERAGE DISCHARGE.--53 years, 55.2 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft^3/s, Sept. 12, 1971, gage height, 7.57 ft; minimum, 5.6 ft^3/s, June 29, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	2045	407	3.36	Apr. 4	2145	*1,250	*5.36
Dec. 25	1300	407	3.36	Apr. 6	1515	400	3.34
Mar. 1	2200	431	3.43	Sept. 9	0215	707	4.17
Mar. 31	1915	867	4.55	Sept. 13	2100	798	4.39

Minimum discharge, 10 ft^3/s, Nov. 1, gage height, 1.39 ft.

REVISIONS.--The peak discharge for May 30, 1984 has been revised to 927 ft^3/s and for July 7, 1984 to 1,070 ft^3/s. They supercede figures published in the report for 1984.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	11	54	30	51	152	199	45	38	34	14	39
2	20	12	76	198	30	203	69	43	40	39	14	29
3	25	14	175	88	35	83	83	48	39	55	35	23
4	78	18	69	58	93	60	671	112	44	40	36	18
5	52	21	45	43	54	63	371	78	45	34	110	18
6	36	44	38	35	49	55	278	36	37	33	202	18
7	46	25	35	56	26	52	208	42	37	34	57	53
8	79	44	33	73	26	52	121	42	38	54	38	103
9	78	49	47	65	29	52	83	40	39	40	56	245
10	77	49	65	26	26	44	83	38	37	29	168	51
11	75	69	43	46	24	38	75	36	36	29	53	35
12	75	43	45	83	26	28	69	36	36	33	41	28
13	74	29	39	73	33	50	99	36	36	54	30	351
14	88	25	31	25	31	28	74	38	36	113	22	128
15	83	23	31	25	30	36	64	43	35	123	21	43
16	73	23	30	24	28	41	77	38	35	62	21	40
17	69	22	29	23	29	41	125	34	34	46	19	85
18	67	21	60	35	30	40	106	33	34	44	19	91
19	66	53	120	136	30	36	58	41	33	33	18	76
20	65	47	54	92	28	24	62	38	33	25	18	41
21	64	139	39	27	28	22	57	34	54	28	18	35
22	62	31	34	30	29	22	57	32	47	20	19	32
23	61	38	48	47	66	23	64	32	40	17	51	31
24	55	44	26	41	96	22	61	31	35	16	54	29
25	49	42	171	39	60	26	138	30	33	17	80	35
26	61	125	49	39	22	29	52	34	34	17	81	28
27	54	113	28	38	22	30	51	39	99	15	97	25
28	33	42	33	36	22	41	94	39	58	15	85	23
29	27	44	33	28	---	38	66	39	43	14	57	23
30	21	50	33	25	---	32	51	38	35	14	35	52
31	14	---	31	59	---	540	---	38	---	15	29	---
TOTAL	1749	1310	1644	1643	1053	2003	3666	1283	1220	1142	1598	1828
MEAN	56.4	43.7	53.0	53.0	37.6	64.6	122	41.4	40.7	36.8	51.5	60.9
MAX	88	139	175	198	96	540	671	112	99	123	202	351
MIN	14	11	26	23	22	22	51	30	33	14	14	18

CAL YR 1986 TOTAL 18319 MEAN 50.2 MAX 335 MIN 11
WTR YR 1987 TOTAL 20139 MEAN 55.2 MAX 671 MIN 11

01378500 HACKENSACK RIVER AT NEW MILFORD, NJ

LOCATION.--Lat 40°56'52", long 74°01'34", Bergen County, Hydrologic Unit 02030103, on right bank upstream from two masonry dams and two lift gates at pumping plant of Hackensack Water Co., New Milford, 4.0 mi downstream from Pascack Brook, and 21.8 mi upstream from mouth.

DRAINAGE AREA.--113 mi^2

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October 1921, published in WSP 1302.

REVISED RECORDS: WSP 601: Drainage area. WSP 711: 1927-28(M). WRD-NJ 1970: 1969. WDR-NJ 1977: 1975(M). WDR-NJ 1984: 1983.

GAGE.--Water-stage recorder above south dam. Datum of gage is 6.25 ft above National Geodetic Vertical Datum of 1929. October 1921 to November 23, 1923, nonrecording gage and Nov. 23, 1923, to Sept. 25, 1934, water-stage recorder at same site at datum 0.05 ft lower.

REMARKS.--No estimated daily discharge. Records poor. Records given herein do not include diversion at gage. Flow regulated by DeForest Lake, Lake Tappan, Woodcliff Lake 9.0 mi upstream from station, and Oradell Reservoir 0.6 mi upstream from station (see Hackensack River basin, reservoirs in). Water pumped into basin above gage from Sparkill Creek (Hudson River basin) and Saddle River (Passaic River basin) by Hackensack Water Company for municipal supply (see Hacksensack River basin, diversions). Water diverted at gage, De Forest Lake, and West Nyack, NY, for municipal supply (see Hackensack River basin, diversions). Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

AVERAGE DISCHARGE.--66 years, 99.5 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft^3/s, Nov. 9, 1977 and Apr. 5, 1984; maximum gage height, 7.96 ft, April 5, 1984; no flow many days during most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,840 ft^3/s, Apr. 5, gage height, 6.76 ft; minimum daily, 0.54 ft^3/s, Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.67	.98	1.0	.76	101	37	1340	58	7.9	2.6	2.2	1.8
2	.60	1.2	1.0	231	43	833	478	48	6.1	1.1	2.1	1.9
3	.60	.99	412	365	.64	409	449	35	9.2	1.7	2.1	2.0
4	.54	1.0	21	203	.73	221	1760	172	4.6	1.4	2.5	1.8
5	.77	1.1	22	106	.65	159	2870	226	9.5	1.5	6.3	3.0
6	.78	.92	20	70	1.4	75	1390	98	5.0	1.5	2.5	2.0
7	.98	1.2	19	49	2.3	32	999	72	4.3	1.1	2.2	5.6
8	1.0	1.2	19	54	2.4	180	477	54	5.2	2.2	2.7	4.8
9	1.1	1.1	19	49	2.3	137	327	42	6.6	1.5	2.9	2.8
10	1.3	1.2	19	27	1.7	224	511	32	4.8	1.8	6.8	2.9
11	1.1	1.8	20	50	1.8	188	406	17	4.5	2.2	2.0	2.0
12	1.2	.77	21	80	1.9	143	49	14	3.4	5.1	2.9	2.0
13	1.2	.97	20	88	1.6	156	169	12	3.6	2.9	3.2	2.8
14	.90	1.2	19	54	3.3	136	298	15	4.1	5.2	1.9	2.7
15	1.0	1.0	137	62	2.2	142	138	14	3.6	2.4	1.6	3.8
16	.96	1.1	163	44	3.0	138	256	18	3.7	2.7	2.0	2.4
17	1.1	1.4	18	1.6	3.9	112	310	18	2.4	2.2	2.5	2.7
18	1.3	1.1	.67	4.3	1.4	124	109	15	3.5	1.6	2.3	323
19	1.3	1.4	.76	413	1.7	127	243	15	4.3	2.3	2.3	198
20	1.0	1.1	.86	111	2.9	126	190	12	2.5	2.0	1.8	43
21	1.1	1.1	.83	88	1.6	132	135	14	3.6	1.6	1.8	35
22	.98	1.6	.65	82	2.2	126	85	16	3.8	1.8	1.9	38
23	.88	1.0	.70	100	2.3	132	91	19	2.8	3.6	2.5	37
24	1.1	1.6	.80	89	2.4	130	86	20	2.3	1.9	2.2	31
25	1.1	.73	.79	87	2.9	131	293	15	2.3	1.8	2.3	27
26	1.1	.96	.72	84	2.8	135	224	15	3.2	2.5	2.0	25
27	1.0	1.3	.73	79	1.9	129	135	11	3.0	3.3	1.8	27
28	1.1	1.1	.76	79	1.8	137	138	7.9	1.5	2.8	1.8	29
29	1.0	1.3	.84	87	---	143	131	9.3	2.1	1.6	1.7	13
30	1.0	1.0	.73	91	---	151	88	8.7	2.4	1.7	1.6	4.0
31	1.0	---	.64	96	---	584	---	5.9	---	2.1	2.3	---
TOTAL	30.76	34.42	961.48	3024.66	197.72	5629	14175	1128.8	125.8	69.7	76.7	877.0
MEAN	.99	1.15	31.0	97.6	7.06	182	472	36.4	4.19	2.25	2.47	29.2
MAX	1.3	1.8	412	413	101	833	2870	226	9.5	5.2	6.8	323
MIN	.54	.73	.64	.76	.64	32	49	5.9	1.5	1.1	1.6	1.8

CAL YR 1986 TOTAL 10953.62 MEAN 30.0 MAX 699 MIN .14
WTR YR 1987 TOTAL 26330.84 MEAN 72.1 MAX 2870 MIN .54

RESERVOIRS IN HACKENSACK RIVER BASIN

01376700 DE FOREST LAKE.--Lat 41°06'23", long 73°58'01, Rockland County, NY, Hydrologic Unit 02030103, at dam on Hackensack River, 0.8 mi north of West Nyack, NY. DRAINAGE AREA, 27.5 mi^2. PERIOD OF RECORD, February 1956 to current year. REVISED RECORDS.--WDR NJ-84-1: Drainage area. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by earthfill dam with sheet piling cutoff and concrete spillway; dam completed and storage began in February 1956. Crest of dam topped by two 50 ft Bascule Gates, 5ft high. Capacity 5,670,500 gal, elevation, 85.00 ft, top of Bascule Gates. Flow regulated by 12-inch Howell-Bunger valve at elevation, 59.25 ft and 24-inch Howell-Bunger valve at elevation, 61.25 ft. Reservoir used for storage and water released by Hackensack Water Co., for municipal water supply.
COOPERATION.--Records provided by Hackensack Water Company.

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River, 0.5 mi north of Old Tappan. DRAINAGE AREA, about 49.0 mi^2. PERIOD OF RECORD, October 1966 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam, completed in 1966. Capacity at spillway level, 3,378,000,000 gal, elevation, 55.00 ft. Flow regulated by four Bascule gates and one sluice gate. Water is released by Hackensack Water Co., for municipal water supply.
COOPERATION.--Records provided by Hackensack Water Company.

01377450 WOODCLIFF LAKE.--Lat 41°01', long 74°03', Bergen County, Hydrologic Unit 02030103, at dam on Pascack Brook, 0.7 mi north of Hillsdale. DRAINAGE AREA, 19.4 mi^2. PERIOD OF RECORD, December 1929 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam, completed about 1905. Capacity at spillway level, 835,000,000 gal, elevation, 94.33 ft. Flow is regulated by flashboards and one 36-inch gate in center of dam. Water is released for diversion at New Milford by Hackensack Water Co., for municipal supply.
COOPERATION.--Records provided by Hackensack Water Company.

01378480 ORADELL RESERVOIR.--Lat 40°57', long 74°02', Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River at Oradell. DRAINAGE AREA, 113 mi^2. PERIOD OF RECORD, December 1922 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. REVISED RECORDS.--WDR NJ-84-1: Spillway elevation. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by hollow concrete dam, completed in 1922. Capacity at spillway level, 3,267,000,000 gal, elevation, 23.16 ft. Flow regulated by seven sluice gates (7 by 9 ft). Water is released for diversion by Hackensack Water Co., 1 mi downstream from dam for municipal supply.
COOPERATION.--Records provided by Hackensack Water Company.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01376700 DE FOREST LAKE			01376950 LAKE TAPPAN		
Sept. 30.....	83.31	5,127	-	50.90	2,477	-
Oct. 31.....	82.08	4,745	-19.1	48.95	1,905	-28.5
Nov. 30.....	84.84	5,617	+45.0	50.85	2,462	+28.7
Dec. 31.....	85.10	5,703	+4.3	55.20	3,924	+73.0
CAL YR 1986			+2.4			+.3
Jan. 31.....	85.14	5,716	+.6	55.29	3,957	+1.6
Feb. 28.....	85.04	5,683	-1.8	55.14	3,902	-3.0
Mar. 31.....	85.65	5,885	+10.1	55.53	4,044	+7.1
Apr. 30.....	84.27	5,759	-6.5	55.28	3,953	-4.7
May 31.....	85.89	5,634	-6.2	55.00	3,852	-5.0
June 30.....	84.03	5,356	-14.3	53.08	3,181	-34.6
July 31.....	82.90	4,999	-17.8	50.72	2,422	-37.9
Aug. 31.....	82.33	4,822	-8.8	51.09	2,536	+5.7
Sept. 30.....	84.00	5,347	+27.1	52.80	3,087	+28.4
WTR YR 1987	-	-	+.9	-	-	+2.6

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01377450 WOODCLIFF LAKE			01378480 ORADELL RESERVOIR		
Sept. 30.....	95.10	876	-	18.89	2,440	-
Oct. 31.....	80.60	202	-33.6	18.51	2,352	-4.4
Nov. 30.....	94.05	818	+31.8	22.21	3,252	+46.4
Dec. 31.....	95.10	876	+2.9	22.19	3,247	-.2
CAL YR 1986			+3.2			+.05
Jan. 31.....	94.20	826	-2.5	21.69	3,118	-6.4
Feb. 28.....	93.93	811	-.8	21.95	3,185	+3.7
Mar. 31.....	95.75	913	+5.1	23.75	3,670	+24.2
Apr. 30.....	94.92	866	-2.4	23.18	3,512	-8.2
May 31.....	94.33	833	-1.6	19.69	2,627	-44.2
June 30.....	91.56	682	-7.8	19.19	2,509	-6.1
July 31.....	91.59	683	+.05	18.66	2,387	-6.1
Aug. 31.....	94.29	831	+7.4	19.66	2,620	+11.6
Sept. 30.....	94.63	850	+1.0	21.14	2,979	+18.5
WR YR 1987	-	-	-.11	-	-	+2.3

† Elevation at 2400 of the last day of each month.

DIVERSIONS INTO AND FROM HACKENSACK RIVER BASIN

01376272 Hackensack Water Co., diverts water from Sparkill Creek at foot of Danny Lane in Northvale, 300 ft south of New York-New Jersey state line and 0.6 mi upstream of Sparkill Brook. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.

01376699 Spring Valley Water Co., diverts water at De Forest Lake for municipal supply in Rockland County, NY. Records provided by Spring Valley Water Co.

01376810 Village of Nyack, NY, diverts water from Hackensack River 100 ft downstream from gaging station on Hackensack River at West Nyack, NY (station 01376800) for municipal supply. Records provided by Board of Water Commissioners of Nyack, NY.

01378490 Hackensack Water Co., diverts water for municipal supply from Oradell Reservoir at Haworth pumping station 2.0 mi upstream from gaging station on Hackensack River at New Milford and from Hackensack River about 50 ft above gaging station on Hackensack River at New Milford, NJ (station 01378500).

01378520 Hackensack Water Co., diverts water from Hirshfeld Brook, a tributary of the Hackensack River, below the gaging station on Hackensack River at New Milford, NJ, for municipal supply. Records provided by Hackensack Water Co.

01387991 Hackensack Water Co. diverts water from the Ramapo River by pumping from Pompton Lake above the gaging station into Oradell Reservoir on the Hackensack River, for municipal supply. Pumping began Feb. 14, 1985. Records provided by Hackensack Water Co.

01391210 Hackensack Water Co., diverts water from Saddle River just north of bridge on State Route 4 at Arcola. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MONTH	01376699 SPRING VALLEY WATER CO.	01376810 WEST NYACK, NY	01378490 HACKENSACK WATER CO.
October	10.9	2.90	148
November	4.88	2.81	143
December	0	2.90	143
CAL YR 1986	5.62	3.01	150
January	0	2.95	142
February	0	3.04	145
March	0	2.69	142
April	0	2.53	143
May	3.84	2.77	158
June	15.2	3.15	182
July	15.7	3.15	180
August	16.7	2.88	178
September	9.57	3.11	157
WTR YR 1987	6.44	3.51	155

The following are diversions by pumpage from sources other than the Hackensack River into Oradell Reservoir. These figures are included in diversions from Hackensack River as noted above (station 01378490).

MONTH	01376272 SPARKILL CREEK (HUDSON RIVER BASIN)	01378520 HIRSHFELD BROOK (HACKENSACK RIVER BASIN)	01387991 RAMAPO RIVER (PASSAIC RIVER BASIN)	01391210 SADDLE RIVER (PASSAIC RIVER BASIN)	WELLS TO SURFACE SUPPLY
October	0	1.66	15.3	.02	0.17
November	0	2.42	16.1	9.42	.02
December	0	.82	1.13	1.18	0
CAL YR 1986	.04	1.21	6.96	7.61	0.55
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	.11
May	0	0	0	0	.08
June	0	0	36.1	1.69	.28
July	0	0	38.0	3.81	.24
August	0	0	34.8	6.69	.28
September	0	0	25.0	4.41	.28
WTR YR 1987	0	0.41	13.9	2.27	0.12

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ

LOCATION.--Lat 40°40'48", long 74°31'45", Somerset County, Hydrologic Unit 02030103, on right bank 200 ft downstream from Davis Bridge on Maple Avenue, 0.7 mi northwest of Millington, and 1.8 mi downstream from Black Brook.

DRAINAGE AREA.--55.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1903 to June 1906 (published as "at Millington"), October 1921 to current year. Monthly discharge only for some periods published in WSP 1302.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1905(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete-block control. Datum of gage is 215.60 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Nov. 25, 1903 to July 15, 1906, nonrecording gage at bridge 0.8 mi downstream at different datum. Nov. 10, 1921 to Sept. 1, 1923, nonrecording gage at site 200 ft downstream at present datum. Oct. 31, 1923 to July 3, 1925, nonrecording gage and concrete control at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, was discontinued in April 1979 and the installation dismantled. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--67 years (water years 1905, 1921-87) 91.0 ft^3/s, 22.30 in/yr, adjusted for diversion water years 1970-1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s, Jan. 9, 1905, gage height, 7.8 ft, from graph based on gage readings, site and datum then in use, from rating curve extended above 1,400 ft^3/s on basis of velocity-area study; maximum gage height, 9.73 ft, Aug. 29, 1971; minimum discharge, 0.2 ft^3/s, Sept. 12, 13, 1966, gage height, 3.76 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1730	532	6.76	Mar. 2	1630	580	6.87
Nov. 27	1045	768	7.29	Apr. 5	0145	*996	*7.81
Dec. 3	1915	621	6.96				

Minimum discharge, 12 ft^3/s, Aug. 25, gage height, 4.37 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	24	195	108	80	249	250	87	24	26	38	46
2	21	24	154	142	85	573	202	78	30	34	33	39
3	20	24	493	218	105	547	161	75	37	85	31	30
4	29	21	499	217	133	423	502	113	44	92	29	26
5	27	25	379	180	137	291	951	137	92	47	63	23
6	22	51	276	150	126	216	890	130	70	40	176	22
7	22	55	191	129	122	190	731	116	52	35	134	29
8	21	69	145	117	123	176	477	100	48	46	93	61
9	20	113	143	105	123	163	285	87	41	107	76	117
10	18	87	222	102	116	143	205	76	34	91	149	92
11	17	94	200	126	100	120	165	65	28	62	155	61
12	16	162	179	131	91	112	141	56	26	55	106	55
13	17	128	158	121	81	107	129	49	28	61	88	84
14	23	103	116	114	74	103	120	44	27	83	67	192
15	30	86	102	119	70	96	108	46	24	196	53	140
16	23	75	89	121	56	90	100	46	21	175	42	106
17	22	65	84	106	55	82	104	40	20	139	35	88
18	22	55	121	98	55	76	131	38	18	112	32	99
19	20	110	270	137	54	71	126	46	18	103	28	103
20	19	140	221	149	52	68	115	48	17	144	24	95
21	18	430	184	154	51	66	104	49	22	98	20	82
22	18	439	144	117	53	63	91	47	42	65	18	72
23	18	357	117	98	58	60	80	42	59	53	18	64
24	17	281	101	123	63	57	83	39	36	48	15	53
25	17	203	349	90	68	55	138	35	31	65	13	45
26	22	250	398	83	72	55	140	34	28	81	13	38
27	39	696	314	78	73	54	118	35	63	129	29	34
28	32	590	244	74	72	61	111	35	60	84	52	31
29	29	459	178	72	---	65	109	33	36	64	62	28
30	28	312	140	67	---	65	100	28	33	54	51	29
31	26	---	120	75	---	165	---	25	---	45	42	---
TOTAL	696	5528	6526	3721	2348	4662	6967	1879	1109	2519	1785	1984
MEAN	22.5	184	211	120	83.9	150	232	60.6	37.0	81.3	57.6	66.1
MAX	39	696	499	218	137	573	951	137	92	196	176	192
MIN	16	21	84	67	51	54	80	25	17	26	13	22
CFSM	.41	3.33	3.80	2.17	1.51	2.71	4.19	1.09	.67	1.47	1.04	1.19
IN.	.47	3.71	4.38	2.50	1.58	3.13	4.68	1.26	.74	1.69	1.20	1.33

CAL YR 1986 TOTAL 37662 MEAN 103 MAX 1050 MIN 12 CFSM 1.86 IN. 25.27
WTR YR 1987 TOTAL 39724 MEAN 109 MAX 951 MIN 13 CFSM 1.96 IN. 26.66

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-25, 1962 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
20...	1030	E19	268	7.2	9.0	8.2	71	1.2	170	230
FEB 1987										
09...	1030	123	277	7.4	0.0	11.2	78	1.1	110	130
APR										
02...	1115	203	215	7.5	9.0	8.4	74	1.6	110	130
JUN										
08...	1030	50	228	7.1	20.0	4.3	48	1.2	260	1100
JUL										
13...	1030	63	229	7.0	24.5	2.3	28	2.4	130	3500
AUG										
31...	1130	42	246	7.3	19.0	5.7	62	0.9	70	110

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
20...	79	19	7.7	22	2.7	63	20	38	<0.1
FEB 1987									
09...	66	16	6.4	28	1.4	38	21	56	<0.1
APR									
02...	59	14	5.8	19	1.8	41	13	32	<0.1
JUN									
08...	74	18	7.0	16	0.8	61	12	24	0.1
JUL									
13...	79	20	7.1	17	1.7	66	10	25	0.1
AUG									
31...	68	17	6.3	20	2.4	53	22	26	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
20...	15	160	0.008	0.09	0.28	--	--	0.130	5.9
FEB 1987									
09...	6.7	160	0.004	0.25	<0.05	0.56	0.81	0.060	7.5
APR									
02...	4.9	120	0.013	0.22	0.09	0.83	1.0	0.112	12
JUN									
08...	17	130	0.018	0.18	0.11	0.96	1.1	0.162	10
JUL									
13...	18	140	0.022	0.18	0.16	0.93	1.1	0.440	14
AUG									
31...	16	140	0.014	0.89	0.13	0.81	1.7	0.140	8.9

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
JUN 1987 08...	1030	<0.5	<10	2	<10	80	<1	<10

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUN 1987 08...	2	820	<5	110	<0.10	<1	<1	10

01379500 PASSAIC RIVER NEAR CHATHAM, NJ

LOCATION.--Lat 40°43'31", long 74°23'23", Morris County, Hydrologic Unit 02030103, on left bank 150 ft downstream from Stanley Avenue bridge in Chatham, and 3.0 mi upstream from Canoe Brook.

DRAINAGE AREA.--100 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1903 to December 1911, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NJ-86-1: 1984 (M).

GAGE.--Water-stage recorder. Concrete control since Sept. 19, 1938. Datum of gage is 193.51 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 31, 1911, nonrecording gage at bridge 150 ft upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, during water years 1903-79. Several measurements of water-temperature, other than those published, were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1904-11, 1938-87), 172 ft^3/s, 23.36 in./yr, adjusted for diversion water years 1970-79.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft^3/s, Aug. 2, 1973, gage height, 9.36 ft, from floodmark; minimum, 2.0 ft^3/s, many days in May and June 1903, August and October 1905, September and October 1906, and September 11, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	2130	972	5.64	Mar. 3	0130	912	5.54
Dec. 4	1100	867	5.47	Apr. 4	1330	*1,210	*6.04

Minimum discharge, 26 ft^3/s, Aug. 26, gage height, 3.28 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e45	35	523	175	e150	537	509	e145	e42	51	61	62
2	e41	34	399	373	e145	829	415	e130	e43	58	53	61
3	e42	33	753	459	e194	903	298	e120	e66	178	49	50
4	e60	35	850	424	270	849	796	e185	e80	167	47	43
5	e54	42	784	343	291	721	990	e290	e250	102	108	39
6	e40	98	630	265	239	566	1140	e250	e200	66	392	36
7	36	92	479	220	214	441	1110	e210	e120	56	319	60
8	34	133	324	e194	218	366	1010	e175	e76	104	182	80
9	31	200	300	e167	234	303	826	e140	e73	282	120	158
10	e30	159	444	e142	201	248	609	e120	e70	196	336	154
11	e28	171	421	e220	186	197	414	e100	e52	125	344	100
12	e27	273	366	e250	155	171	258	e95	e45	196	211	76
13	e34	228	310	e210	140	170	212	e85	47	210	136	253
14	47	160	220	e195	137	170	185	e75	47	256	106	328
15	47	127	190	e188	133	154	161	e76	43	512	84	254
16	43	108	158	e210	e115	136	146	81	39	448	67	168
17	34	97	143	e180	e105	124	171	68	36	300	56	133
18	e34	87	286	e170	93	113	255	62	34	185	51	193
19	e33	249	509	e280	87	105	224	87	31	181	46	183
20	e32	302	489	e320	82	101	183	84	31	222	43	166
21	31	634	388	e300	77	95	161	80	67	180	38	130
22	30	678	280	e260	77	90	142	77	148	114	35	110
23	28	633	212	e200	88	85	122	e70	248	82	34	96
24	27	541	176	e190	106	81	139	e65	111	78	32	84
25	46	441	596	e180	103	77	350	e60	62	205	29	71
26	47	520	706	e160	109	75	e297	e55	49	253	26	60
27	53	787	658	e155	113	74	e220	e56	116	380	72	53
28	52	915	530	e150	111	89	e180	e57	143	255	103	48
29	44	830	403	e135	---	93	e190	e55	83	130	112	45
30	39	687	281	e120	---	89	e170	e52	57	88	96	47
31	37	---	220	e130	---	437	---	e50	---	71	66	---
TOTAL	1206	9329	13028	6965	4173	8489	11883	3255	2509	5731	3454	3341
MEAN	38.9	311	420	225	149	274	396	105	83.6	185	111	111
MAX	60	915	850	459	291	903	1140	290	250	512	392	328
MIN	27	33	143	120	77	74	122	50	31	51	26	36
CFSM	.39	3.11	4.20	2.25	1.49	2.74	3.96	1.05	.84	1.85	1.11	1.11
IN.	.45	3.47	4.85	2.59	1.55	3.16	4.42	1.21	.93	2.13	1.28	1.24

CAL YR 1986 TOTAL 71100 MEAN 195 MAX 1520 MIN 24 CFSM 1.95 IN. 26.44
WTR YR 1987 TOTAL 73363 MEAN 201 MAX 1140 MIN 26 CFSM 2.01 IN. 27.28

e Estimated

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1966 to September 1968.
SUSPENDED-SEDIMENT DISCHARGE: July 1963 to September 1968.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
21...	1100	E31	422	7.4	11.0	7.8	71	4.4	330	20
FEB 1987										
10...	1100	E30	554	7.5	0.5	14.0	98	1.4	400	200
APR										
07...	1030	1120	157	7.3	9.0	8.6	76	3.3	1300	9200
JUN										
10...	1030	E70	362	7.4	22.0	6.1	70	4.0	2100	4300
JUL										
13...	1300	E210	229	7.1	25.5	4.4	54	5.7	11000	13000
AUG										
25...	1300	29	--	7.8	19.5	6.0	--	2.2	800	<200

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
21...	110	27	9.7	40	4.6	70	36	54	0.1
FEB 1987									
10...	92	23	8.5	68	1.7	46	32	130	0.1
APR									
07...	42	10	4.1	14	1.5	26	14	20	<0.1
JUN									
10...	93	23	8.7	34	2.0	66	23	52	0.1
JUL									
13...	70	18	6.2	19	2.0	49	17	24	<0.1
AUG									
25...	120	29	11	55	3.3	98	35	72	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
21...	15	230	0.129	2.74	0.90	2.0	4.7	0.950	8.0
FEB 1987									
10...	11	300	0.018	0.85	0.23	0.97	1.8	0.158	7.3
APR									
07...	7.4	87	0.023	0.46	0.12	0.63	1.1	0.114	11
JUN									
10...	18	200	0.184	1.10	0.53	1.1	2.2	0.550	8.2
JUL									
13...	13	130	0.095	1.24	0.31	0.92	2.2	0.430	13
AUG									
25...	9.5	270	0.290	3.73	0.39	1.6	5.3	0.670	9.1

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986												
21...	1100	--	220	<0.1	8.9	--	--	11	--	--	--	<1
21...	1100	<0.5	--	--	--	<10	<1	--	<10	210	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986											
21...	--	8	10	--	40	--	5000	--	80	--	230
21...	<10	--	--	11	--	670	--	<5	--	60	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
21...	--	0.07	--	<10	--	<1	--	90	--	30	<1.0
21...	0.10	--	5	--	<1	--	270	--	4	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
21...	<0.1	170	6.9	1.8	3.4	0.3	0.2	<0.1	<0.1	<0.1	0.1
21...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
21...	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<1.00	<10	<0.1
21...	--	--	--	--	--	--	--	--	--	--	--

01379700 ROCKAWAY RIVER AT BERKSHIRE VALLEY, NJ

LOCATION.--Lat 40°55'51", long 74°35'42", Morris County, Hydrologic Unit 02030103, on left bank 60 ft downstream from bridge on Berkshire Valley Road in Berkshire Valley, 2.7 mi upstream from Stephens Brook, and 3.8 mi northwest of Dover.

DRAINAGE AREA.--24.4 mi^2.

PERIOD OF RECORD.--Low-flow partial-record station water years 1960-72. May 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 682.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulation from lakes and reservoirs upstream. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 744 ft^3/s, Sept. 14, 1987, gage height, 7.23 ft; minimum, 7.5 ft^3/s, July 5, gage height, 2.83 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 11, 1936, reached a stage of 6.72 ft, present datum, discharge not determined. Flood of April 5, 1984, reached a stage of 9.05 ft, from floodmarks, discharge 1,290 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	2245	164	5.39	Apr. 1	1245	184	5.35
Dec. 4	0300	211	5.52	Apr. 5	0830	597	6.89
Dec. 26	0130	165	5.21	Sep. 14	0900	*744	*7.23
Mar. 10	0330	164	5.20				

Minimum discharge, 7.5 ft^3/s, July 5, gage height, 2.83 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	65	69	34	51	177	70	20	14	11	22
2	15	14	58	75	33	105	153	63	21	13	10	20
3	16	14	169	74	34	96	122	59	21	17	13	18
4	20	13	197	62	36	79	253	77	22	9.9	12	17
5	18	14	154	54	e34	68	551	81	25	7.8	20	12
6	16	23	123	49	e32	65	415	77	23	9.8	41	10
7	14	22	104	46	31	76	326	68	20	11	33	15
8	17	25	90	45	31	110	257	59	19	22	24	28
9	22	28	89	42	29	148	204	53	18	30	19	89
10	21	23	105	41	e28	163	174	49	18	60	36	87
11	20	25	113	44	26	147	146	45	21	42	24	54
12	20	32	91	42	26	129	123	41	22	31	19	38
13	19	25	76	38	e25	112	119	38	22	32	15	198
14	20	23	63	36	e24	98	120	35	21	40	13	630
15	17	25	57	39	e23	87	101	36	18	85	12	393
16	15	25	54	47	e22	79	86	37	16	63	11	223
17	14	25	53	45	23	70	88	33	15	42	10	167
18	14	24	68	43	23	63	97	30	14	37	9.9	156
19	14	34	105	50	25	58	89	38	17	25	9.9	137
20	14	33	97	50	24	55	76	47	20	21	10	119
21	14	148	81	44	22	52	67	43	23	19	11	94
22	13	149	68	41	22	50	60	38	21	16	12	78
23	12	107	60	67	24	48	56	34	19	14	15	65
24	12	83	57	48	23	45	72	31	18	12	16	60
25	12	67	140	43	22	43	135	28	18	13	15	59
26	15	75	160	41	21	41	124	27	17	17	14	54
27	19	134	135	39	21	38	98	26	22	15	25	47
28	17	115	114	38	21	38	91	25	20	14	24	42
29	15	93	98	37	---	38	94	24	17	13	24	36
30	14	85	86	37	---	36	76	23	13	11	18	39
31	13	---	78	37	---	104	---	21	---	11	24	---
TOTAL	497	1516	3008	1463	739	2392	4550	1356	581	767.5	550.8	3007
MEAN	16.0	50.5	97.0	47.2	26.4	77.2	152	43.7	19.4	24.8	17.8	100
MAX	22	149	197	75	36	163	551	81	25	85	41	630
MIN	12	13	53	36	21	36	56	21	13	7.8	9.9	10
CFSM	.66	2.07	3.98	1.93	1.08	3.16	6.22	1.79	.79	1.01	.73	4.11
IN.	.76	2.31	4.59	2.23	1.13	3.65	6.94	2.07	.89	1.17	.84	4.58

CAL YR 1986 TOTAL 19339.6 MEAN 53.0 MAX 331 MIN 9.6 CFSM 2.17 IN. 29.49
WTR YR 1987 TOTAL 20427.3 MEAN 56.0 MAX 630 MIN 7.8 CFSM 2.29 IN. 31.15

e Estimated

01379773 GREEN POND BROOK AT PICATINNY ARSENAL, NJ

LOCATION.--Lat 40°57'34", long 74°32'24", Morris County, Hydrologic Unit 02030103, on left bank at Picatinny Arsenal, 500 ft upstream from Picatinny Lake, and 0.55 mi downstream from Burnt Meadow Brook.

DRAINAGE AREA.--7.65 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 712.54 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, bench mark).

REMARKS.--No estimated daily discharges. Records good. Some regulation by Lake Denmark and Green Pond. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--5 years, 15.3 ft^3/s, 27.16 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 333 ft^3/s, Apr. 5, 1984, gage height, 3.51 ft; minimum, 1.4 ft^3/s, June 25, 26, 27, July 1, 1987, gage height, 1.25 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	1500	161	2.91	Sept. 13	1645	*270	*3.32

Minimum discharge, 1.4 ft^3/s, June 25, 26, 27, July 1, gage height, 1.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	4.0	37	24	14	18	38	19	2.9	1.4	2.1	5.5
2	4.9	4.0	36	26	13	25	35	17	2.9	1.9	2.1	4.6
3	5.1	4.0	62	26	14	25	31	17	3.0	3.4	2.5	4.1
4	6.2	4.0	57	22	14	26	88	20	3.1	2.1	2.3	3.5
5	5.7	4.4	51	20	13	26	104	21	3.3	1.7	4.9	3.3
6	5.1	6.8	45	19	12	26	86	20	2.8	1.5	13	3.2
7	4.9	5.5	39	18	12	27	79	19	2.6	1.5	9.9	5.6
8	4.7	7.1	35	16	12	32	68	17	2.6	3.8	8.6	14
9	4.5	7.4	35	15	13	35	57	15	2.5	2.9	7.9	25
10	4.4	6.6	35	15	12	34	48	14	2.4	3.0	17	22
11	4.3	8.4	33	16	12	30	41	13	2.2	2.0	13	19
12	4.3	9.5	31	15	12	26	35	12	4.7	2.1	10	17
13	4.3	8.8	28	14	12	23	35	11	7.0	2.2	8.0	81
14	4.9	8.2	25	14	11	21	30	8.3	7.2	8.2	6.6	101
15	4.7	8.0	23	15	10	18	26	6.0	7.0	13	5.4	77
16	4.5	8.0	21	16	9.6	16	24	5.7	6.8	10	4.3	63
17	4.4	7.8	20	15	9.2	15	25	5.2	6.6	9.1	3.5	55
18	4.3	8.1	25	16	9.0	13	25	4.9	6.6	7.6	3.0	49
19	4.3	11	31	18	8.7	13	23	6.0	6.5	7.3	2.5	43
20	4.2	14	31	19	8.3	12	21	5.8	5.6	7.7	2.3	36
21	4.0	49	30	19	8.1	11	19	5.4	2.8	6.5	2.3	31
22	4.0	44	27	18	8.0	11	18	5.0	2.4	5.1	2.3	26
23	4.0	40	25	19	8.4	11	16	4.8	1.9	4.1	2.2	23
24	4.0	36	23	20	8.5	9.8	21	5.2	1.6	3.3	2.1	20
25	4.0	32	45	18	8.2	8.6	31	4.9	1.4	3.3	2.1	18
26	4.7	37	43	17	8.1	7.5	30	4.5	1.3	3.5	2.1	16
27	5.1	48	41	16	8.0	5.4	28	4.2	2.0	3.1	4.6	14
28	4.6	45	37	14	8.0	6.7	27	3.9	1.7	2.5	6.8	12
29	4.3	40	32	14	---	6.5	25	3.6	1.5	2.2	7.8	12
30	4.2	42	29	14	---	6.9	22	3.3	1.3	2.1	6.3	12
31	4.0	---	26	15	---	31	---	3.1	---	2.1	5.5	---
TOTAL	141.5	558.6	1058	543	296.1	576.4	1156	304.8	106.2	130.2	173.0	815.8
MEAN	4.56	18.6	34.1	17.5	10.6	18.6	38.5	9.83	3.54	4.20	5.58	27.2
MAX	6.2	49	62	26	14	35	104	21	7.2	13	17	101
MIN	4.0	4.0	20	14	8.0	5.4	16	3.1	1.3	1.4	2.1	3.2
CFSM	.60	2.43	4.46	2.29	1.38	2.43	5.04	1.29	.46	.55	.73	3.55
IN.	.69	2.72	5.14	2.64	1.44	2.80	5.62	1.48	.52	.63	.84	3.97

CAL YR 1986 TOTAL 5688.6 MEAN 15.6 MAX 68 MIN 3.0 CFSM 2.04 IN. 27.65
WTR YR 1987 TOTAL 5859.6 MEAN 16.1 MAX 104 MIN 1.3 CFSM 2.10 IN. 28.50

01379780 GREEN POND BROOK BELOW PICATINNY LAKE AT PICATINNY ARSENAL, NJ

LOCATION.--Lat 40°56'56", long 74°33'29", Morris County, Hydrologic Unit 02030103, on left bank 100 ft upstream from bridge on Whitmore Avenue at Picatinny Arsenal, and 200 ft downstream from dam on Picatinny Lake.

DRAINAGE AREA.--9.16 mi^2.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 694.91 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, benchmark).

REMARKS.--Records good except for period of ice effect, Jan. 23-28, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 309 ft^3/s, Sept. 13, 1987, gage height, 3.70 ft; minimum daily, 0.20 ft^3/s, Nov. 20-23, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 5, 1984 reached an elevation of 699.0 ft above NGVD, 200 ft upstream of bridge on Whitmore Avenue.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 70 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1115	104	3.15	Apr. 4	1745	256	3.51
Dec. 3	0630	90	3.10	Sept. 13	1730	*309	*3.70

Minimum discharge, 0.56 ft^3/s, June 23, 24, 25, 26, gage height, 2.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	2.8	47	29	16	11	43	22	4.6	1.6	2.7	5.4
2	3.5	2.8	45	31	16	18	45	21	4.3	1.8	2.6	5.0
3	3.5	2.7	86	30	15	21	44	20	3.6	1.8	2.7	4.1
4	3.5	2.5	78	28	15	22	126	20	3.2	1.9	2.7	3.6
5	3.5	2.3	68	25	15	25	165	21	3.3	2.0	3.3	3.4
6	3.5	2.2	59	24	15	26	128	22	3.2	2.1	4.3	3.1
7	3.5	2.1	51	23	14	28	111	21	2.8	2.2	4.8	3.7
8	3.5	2.0	45	22	14	33	95	20	2.7	2.4	4.9	6.4
9	3.5	3.8	44	21	14	41	77	19	2.6	2.3	4.7	11
10	3.2	5.0	45	20	14	42	63	18	2.0	2.1	5.5	13
11	3.0	7.8	41	20	13	37	53	17	1.9	2.3	7.2	14
12	3.0	11	38	19	13	33	45	16	1.9	2.3	8.0	14
13	3.0	9.2	34	18	13	35	43	15	2.0	2.6	8.1	132
14	3.1	8.1	30	17	12	37	38	12	2.1	3.4	8.3	173
15	3.3	7.8	27	17	12	32	32	11	2.2	4.8	8.9	114
16	3.3	7.8	25	17	12	26	29	10	2.4	4.4	9.1	86
17	3.3	7.5	24	16	11	21	27	9.2	2.0	4.2	9.2	75
18	3.1	8.0	25	17	10	18	29	8.6	1.9	4.0	9.3	68
19	3.0	12	35	19	9.1	12	27	7.9	1.9	4.0	9.5	55
20	3.0	14	38	19	8.7	6.9	25	7.6	2.0	4.3	9.0	46
21	3.0	77	36	20	8.3	7.1	22	7.1	2.0	5.3	7.7	40
22	2.9	60	33	20	7.9	7.1	20	6.3	2.0	6.8	6.6	34
23	2.8	53	31	e18	8.6	6.9	19	5.7	1.5	7.4	5.4	30
24	2.8	47	30	e19	8.4	6.8	19	4.7	.64	7.7	4.8	29
25	2.8	41	52	e19	8.1	6.6	30	4.7	.66	6.7	4.4	27
26	2.8	44	58	e20	7.8	6.6	34	8.3	1.1	4.8	4.1	25
27	2.8	64	52	e19	7.6	6.4	33	11	1.5	4.9	4.0	23
28	2.9	59	48	e18	7.7	6.1	31	7.6	1.6	5.0	4.1	21
29	2.9	53	42	18	---	6.2	29	5.8	1.6	3.7	4.9	19
30	3.0	51	37	17	---	6.0	25	4.9	1.6	3.3	5.4	18
31	2.9	---	32	17	---	11	---	4.7	---	3.0	5.4	---
TOTAL	97.4	670.4	1336	637	326.2	601.7	1507	389.1	66.80	115.1	181.6	1101.7
MEAN	3.14	22.3	43.1	20.5	11.6	19.4	50.2	12.6	2.23	3.71	5.86	36.7
MAX	3.5	77	86	31	16	42	165	22	4.6	7.7	9.5	173
MIN	2.8	2.0	24	16	7.6	6.0	19	4.7	.64	1.6	2.6	3.1
CFSM	.34	2.44	4.70	2.24	1.27	2.12	5.48	1.37	.24	.41	.64	4.01
IN.	.40	2.72	5.43	2.59	1.32	2.44	6.12	1.58	.27	.47	.74	4.47

CAL YR 1986 TOTAL 6414.46 MEAN 17.6 MAX 95 MIN 2.0 CFSM 1.92 IN. 26.04
WTR YR 1987 TOTAL 7029.95 MEAN 19.3 MAX 173 MIN .64 CFSM 2.10 IN. 28.54

e Estimated

01379790 GREEN POND BROOK AT WHARTON, NJ

LOCATION.--Lat 40°55'04", long 74°35'02", Morris County, Hydrologic Unit 02030103, on left bank 600 ft upstream from bridge on northbound lane of State Route 15, 0.2 mi northwest of Wharton, and 1.7 mi upstream from mouth.

DRAINAGE AREA.--12.6 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 679.50 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation from Lake Picatinny, Picatinny Arsenal sewage treatment plant, and flood gates located about 800 ft upstream of gage. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--5 years, 28.1 ft^3/s, 30.29 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 572 ft^3/s, Apr. 5, 1984, gage height, 5.11 ft; minimum, 2.4 ft^3/s, Sept. 29, 1983, gage height, 2.28 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1345	192	3.77	Apr. 4	1530	320	4.10
Dec. 3	0745	165	3.67	Sept. 13	unknown	*382	*4.31

Minimum discharge, 3.9 ft^3/s, June 24, 25, gage height, 2.38 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	6.1	54	38	24	42	62	32	9.7	6.9	7.2	11
2	8.6	6.0	56	41	24	43	60	30	10	9.3	6.9	10
3	8.4	6.0	136	40	24	39	55	28	8.9	9.7	7.5	9.5
4	10	5.9	99	37	25	37	202	34	9.5	7.3	7.1	8.7
5	9.1	6.0	84	35	23	37	247	34	10	6.4	15	8.2
6	8.0	12	73	33	22	38	175	33	8.4	5.9	27	8.0
7	7.4	8.2	63	32	22	48	145	31	7.5	6.0	15	11
8	7.4	11	55	31	22	56	121	29	7.4	13	12	23
9	7.6	11	59	29	22	59	100	27	7.2	9.4	11	30
10	7.2	11	62	29	22	54	84	26	6.4	7.8	26	25
11	6.7	17	52	30	21	49	71	25	5.8	7.0	16	e23
12	6.7	22	49	29	21	45	62	24	6.0	7.3	15	e22
13	6.9	17	43	28	20	44	64	22	6.2	7.9	14	e216
14	8.2	15	38	27	20	47	53	19	6.5	19	14	e301
15	7.5	14	36	29	19	41	45	19	6.0	24	14	159
16	6.8	13	35	29	18	37	42	17	6.2	13	14	104
17	6.7	13	34	26	17	32	45	16	6.2	11	14	93
18	6.4	13	50	27	17	29	46	16	5.6	9.7	14	91
19	6.4	23	54	29	16	25	40	18	5.5	11	14	70
20	6.4	25	49	29	15	17	37	16	5.6	11	13	56
21	6.4	120	46	29	15	17	34	15	6.4	10	12	48
22	6.5	83	42	29	15	16	31	14	6.4	11	11	42
23	6.6	65	39	29	16	16	29	13	5.8	12	10	39
24	6.5	58	39	29	15	16	37	12	4.5	12	9.3	36
25	6.2	49	98	28	15	15	50	11	4.1	12	8.5	35
26	7.8	68	77	28	15	14	45	12	4.2	12	8.0	32
27	8.6	92	68	27	14	14	43	17	6.7	11	13	29
28	7.7	75	60	26	14	15	42	14	6.0	9.9	17	28
29	6.8	64	53	25	---	14	40	12	5.4	9.2	14	26
30	6.4	59	48	24	---	15	35	11	5.3	7.8	11	27
31	6.4	---	42	24	---	64	---	10	---	7.6	11	---
TOTAL	226.6	988.2	1793	926	533	1035	2142	637	199.4	317.1	401.5	1621.4
MEAN	7.31	32.9	57.8	29.9	19.0	33.4	71.4	20.5	6.65	10.2	13.0	54.0
MAX	10	120	136	41	25	64	247	34	10	24	27	301
MIN	6.2	5.9	34	24	14	14	29	10	4.1	5.9	6.9	8.0
CFSM	.58	2.61	4.59	2.37	1.51	2.65	5.67	1.63	.53	.81	1.03	4.29
IN.	.67	2.92	5.29	2.73	1.57	3.06	6.32	1.88	.59	.94	1.19	4.79

CAL YR 1986 TOTAL 10158.9 MEAN 27.8 MAX 159 MIN 5.9 CFSM 2.21 IN. 29.98
WTR YR 1987 TOTAL 10820.2 MEAN 29.6 MAX 301 MIN 4.1 CFSM 2.35 IN. 31.94

e Estimated

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°54'06", long 74°24'40", Morris County, Hydrologic Unit 02030103, on right bank, under CONRAIL railroad bridge, just downstream of bridge on Morris Avenue in Boonton, 1.8 mi upstream from dam at Boonton Reservoir.

DRAINAGE AREA.--116 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for October 1937, published in WSP 1302.

REVISED RECORDS.--WRD-NJ 1974: 1938(M). WDR NJ-78-1: 1949(M), 1952(M), 1968(M), 1971(M), 1973(P), 1974(M), 1977(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 364.47 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Splitrock Reservoir on Beaver Brook, 14.5 mi above station (see Passaic River basin, reservoirs in). Town of Boonton diverts water for municipal supply from Taylortown Reservoir on Stony Brook, capacity, 75,000,000 gal and by pumping from wells in vicinity of Boonton. The mean diversion during the water year from Taylortown Reservoir was 0.78 ft^3/s. Rockaway Valley trunk sewer bypasses the station (see station 01381000). Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Jersey City, Bureau of Water.

AVERAGE DISCHARGE.--50 years, 226 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,590 ft^3/s, Apr. 5, 1984, gage height, 7.23 ft; minimum daily, 10 ft^3/s, Aug. 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1130	1,290	4.39	Mar. 31	2400	1,040	4.00
Nov. 27	0630	1,100	4.09	Apr. 5	0315	*2,530	*5.74
Dec. 3	1430	1,370	4.51	Sept. 14	0630	1,360	4.50
Dec. 25	1545	1,080	4.06				

Minimum discharge, 3.9 ft^3/s, Oct. 24, gage height, 1.92 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	49	343	286	173	410	843	259	79	52	44	89
2	76	48	319	345	176	695	535	243	81	139	41	74
3	83	48	1100	367	207	500	428	239	82	161	57	65
4	139	49	893	307	230	394	1100	337	88	92	55	59
5	122	60	618	255	204	329	2130	347	127	63	80	55
6	83	168	486	235	186	303	1540	318	96	51	474	51
7	63	131	411	226	181	350	1300	281	81	50	234	110
8	56	159	364	219	180	459	1010	246	77	220	128	290
9	57	201	379	205	183	494	820	220	74	168	97	592
10	59	156	502	204	164	468	672	199	68	118	332	352
11	57	185	421	246	166	415	547	186	62	113	210	231
12	57	288	380	228	157	384	471	173	67	109	121	160
13	58	200	323	202	154	356	466	161	73	116	92	473
14	87	152	264	189	141	334	455	152	68	152	77	1320
15	78	136	252	220	130	300	400	168	62	432	69	1130
16	62	130	231	268	127	274	354	161	57	220	63	739
17	55	124	227	225	133	249	389	142	52	139	58	524
18	52	118	365	217	125	228	488	131	49	104	55	576
19	49	218	680	287	116	213	406	177	47	94	51	488
20	48	213	480	275	115	196	345	171	49	97	48	379
21	47	1030	376	247	115	188	308	171	53	76	46	303
22	45	766	321	202	115	182	279	148	69	66	46	250
23	45	505	287	217	135	176	256	134	69	59	46	220
24	42	407	270	226	133	172	290	124	57	56	45	195
25	43	344	839	204	123	167	481	113	52	55	45	187
26	60	437	759	200	118	165	436	107	50	96	45	168
27	92	985	527	182	116	156	364	109	119	90	111	152
28	71	649	442	166	114	173	342	108	89	60	240	141
29	61	468	388	168	---	168	340	99	65	52	224	131
30	55	393	355	169	---	162	304	90	56	48	118	139
31	52	---	318	184	---	627	---	84	---	54	82	---
TOTAL	2046	8817	13920	7171	4217	9687	18099	5598	2118	3402	3434	9643
MEAN	66.0	294	449	231	151	312	603	181	70.6	110	111	321
MAX	139	1030	1100	367	230	695	2130	347	127	432	474	1320
MIN	42	48	227	166	114	156	256	84	47	48	41	51

CAL YR 1986 TOTAL 87647 MEAN 240 MAX 1590 MIN 41
WTR YR 1987 TOTAL 88152 MEAN 242 MAX 2130 MIN 41

01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°53'47", long 74°23'36", Morris County, Hydrologic Unit 02030103, on right bank 2,000 ft downstream from Boonton Reservoir Dam at Boonton.

DRAINAGE AREA.--119 mi^2.

PERIOD OF RECORD.--March to December 1903; January, February 1904 (gage height only); January 1906 to September 1950 (monthly discharge only, published in WSP 1302) October 1950 to current year (figures of daily discharge for October 1950 to September 1954 published in Special Report 16 of New Jersey Department of Environmental Protection). Published as "near Boonton" 1903-4, and as "at Boonton" 1906-37.

REVISED RECORDS.--WSP 1902: 1951-54. WDR NJ-79-1: 1949(M), 1952(M), 1968(M), 1970-74(M), 1977(M).

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1936. Datum of gage is 195.68 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Mar. 15, 1903 to Feb. 2, 1904, nonrecording gage at site 1.9 mi downstream at different datum. Jan. 1, 1906 to Mar. 3, 1918, nonrecording gage on Boonton Dam 2,000 ft upstream at datum 305.25 ft National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--No estimated daily discharges. Records good. Records represent flow in river only. Sewage effluent enters river about 600 ft below station (records given herein). Flow regulated by Boonton Reservoir (see Passaic River basin, reservoirs in) 2,000 ft above station, and by Splitrock Reservoir (see Passaic River basin, reservoirs in) 16.5 mi above station. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. National Weather Service telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with and record of sewage effluent furnished by Jersey City, Bureau of Water.

AVERAGE DISCHARGE.--81 years (water years 1907-87), 139 ft^3/s, adjusted for sewage effluent since October 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,560 ft^3/s, Oct. 10, 1903; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,930 ft^3/s, Apr. 5, gage height, 6.76 ft; minimum, 9.6 ft^3/s, Nov. 6, 7, 8, 9, 10, 11, 12 and June 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	293	241	98	188	901	210	83	11	11	12
2	11	10	262	316	92	644	607	186	92	12	11	12
3	12	10	936	326	114	531	422	175	87	12	12	12
4	11	10	1110	277	142	376	902	264	93	11	11	12
5	11	10	691	212	135	288	2660	308	119	11	13	12
6	11	10	495	176	115	242	2020	284	58	11	13	12
7	11	9.6	386	164	107	253	1640	240	21	11	11	14
8	11	11	319	150	104	356	1230	197	21	13	11	15
9	11	9.7	315	136	114	434	912	170	12	12	12	78
10	10	9.6	437	133	96	432	707	139	11	11	15	301
11	10	11	403	167	91	378	563	123	11	11	12	201
12	10	9.7	339	165	84	334	465	111	11	11	13	114
13	11	57	276	138	84	299	274	93	11	11	13	250
14	11	80	212	122	67	273	16	83	11	15	13	1350
15	10	60	192	130	59	241	163	91	11	12	13	1350
16	10	53	168	176	42	210	302	96	11	12	13	849
17	15	48	157	172	52	183	330	80	11	12	12	561
18	11	43	221	160	52	159	453	61	11	12	12	544
19	10	99	625	221	41	144	402	86	11	12	12	479
20	10	144	522	225	35	128	319	104	11	12	12	362
21	10	808	363	193	33	116	271	110	11	12	12	269
22	10	913	283	179	34	108	232	96	12	12	12	198
23	10	543	234	133	53	102	199	72	11	11	12	160
24	10	386	210	146	58	98	221	60	66	11	12	129
25	10	301	672	153	46	96	396	49	115	12	12	111
26	10	352	920	137	38	94	426	52	60	12	12	96
27	10	945	596	115	36	84	336	97	12	11	13	81
28	10	757	448	104	36	93	303	116	11	11	14	71
29	10	481	366	99	---	99	305	111	11	11	12	59
30	10	360	315	99	---	93	263	101	11	11	12	57
31	10	---	274	107	---	391	---	94	---	11	12	---
TOTAL	328	6550.6	13040	5272	2058	7467	18240	4059	1027	360	380	7771
MEAN	10.6	218	421	170	73.5	241	608	131	34.2	11.6	12.3	259
MAX	15	945	1110	326	142	644	2660	308	119	15	15	1350
MIN	10	9.6	157	99	33	84	16	49	11	11	11	12
(†)	9.7	11.1	13.6	12.1	11.4	13.0	16.1	12.4	11.1	11.1	11.6	13.3

CAL YR 1986 TOTAL 59148.3 MEAN 162 MAX 1670 MIN 3.5 † 11.8
WTR YR 1987 TOTAL 66552.6 MEAN 182 MAX 2660 MIN 9.6 † 12.2

† Sewage effluent, in cubic feet per second, from plant of Rockaway Valley Regional Sewage Authority.

01381200 ROCKAWAY RIVER AT PINE BROOK, NJ

LOCATION.--Lat 40°51'29", long 74°20'53", Morris County, Hydrologic Unit 02030103, at bridge on U.S. Route 46 at intersection with New Road in Pine Brook, and 1.1 mi upstream of mouth.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--Water years 1963 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
28...	1100	E26	408	7.5	14.0	8.5	83	3.3	<200	200
FEB 1987										
03...	1300	E121	280	7.5	3.5	13.4	103	0.6	49	22
APR										
14...	1300	E36	293	7.4	10.5	9.6	86	3.6	220	350
JUN										
30...	1300	E28	403	7.6	22.0	8.4	96	5.1	920	170
JUL										
27...	1030	E28	414	7.5	22.5	8.2	96	1.6	2400	230
SEP										
01...	1300	E30	372	7.5	20.0	7.8	86	1.8	3300	500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
28...	120	30	11	32	4.0	68	27	47	0.2
FEB 1987									
03...	70	18	6.2	26	1.5	40	20	52	0.1
APR									
14...	83	21	7.3	22	2.0	53	23	40	0.2
JUN									
30...	110	28	10	34	3.9	67	26	55	0.2
JUL									
27...	120	29	11	37	4.7	70	25	52	0.3
SEP									
01...	110	27	9.5	28	3.7	73	21	45	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
28...	12	200	0.031	6.19	0.09	0.30	6.5	1.01	4.0
FEB 1987									
03...	9.1	160	0.005	1.21	0.11	0.59	1.8	0.116	5.3
APR									
14...	12	160	0.008	1.93	0.77	0.85	2.8	0.229	2.9
JUN									
30...	13	210	0.024	6.15	0.29	0.62	6.8	0.910	4.1
JUL									
27...	13	210	0.022	5.73	0.13	0.29	6.0	0.918	4.3
SEP									
01...	11	190	0.027	5.34	0.06	0.78	6.1	0.720	5.7

01381200 ROCKAWAY RIVER AT PINE BROOK, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986												
28...	1100	<0.5	--	--	--	30	<1	--	<10	140	<1	--
28...	1100	--	290	0.1	9.2	--	--	1	--	--	--	<1
JUN 1987												
30...	1300	<0.5	--	--	--	20	<1	--	<10	70	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986											
28...	170	--	--	19	--	360	--	<5	--	70	--
28...	--	8	<10	--	10	--	5100	--	20	--	88
JUN 1987											
30...	20	--	--	6	--	360	--	16	--	90	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	0.10	--	5	--	<1	--	20	--	3	--	--
28...	--	0.07	--	10	--	<1	--	70	--	65	<1.0
JUN 1987											
30...	<0.10	--	<1	--	<1	--	<10	--	3	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.1	12	2.0	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1
JUN 1987											
30...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987											
30...	--	--	--	--	--	--	--	--	--	--	--

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ

LOCATION.--Lat 40°48'21", long 74°27'22", Morris County, Hydrologic Unit 02030103, on left bank at Morristown sewage-disposal plant, 0.8 mi downstream from Morristown, and 9.0 mi upstream from mouth.

DRAINAGE AREA.--29.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1921 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1925-27(M) 1928-29, 1930-32(M), 1933-34. WRD-NJ 1974: 1965. WDR NJ-84-1: 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 1, 1936. Datum of gage is 260.01 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to July 16, 1930, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow occasionally regulated by operation of gates in Pocahontas Dam, 2.5 mi above station. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--66 years, 53.0 ft^3/s, 24.39 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,800 ft^3/s, Aug. 28, 1971, gage height, 8.60 ft; minimum, 2.8 ft^3/s, Aug. 27, 1932, gage height, 0.73 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1000	504	3.92	July 8	2400	542	4.03
Nov. 26	2300	671	4.38	July 14	1630	525	3.98
Dec. 3	0330	629	4.27	Aug. 10	0200	726	4.52
Apr. 4	1715	*1,150	*5.54	Sept. 8	2045	467	3.81
July 3	0030	542	4.03	Sept. 13	1045	467	3.81

Minimum discharge, 15 ft^3/s, Oct. 11, 24, 25; minimum gage height, 1.80 ft, Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	18	48	62	43	262	166	59	31	26	22	41
2	23	21	79	121	48	251	71	57	51	69	21	24
3	32	20	488	104	66	129	62	65	39	229	29	22
4	43	20	146	75	76	88	679	113	57	48	26	21
5	24	28	85	66	64	75	462	95	69	30	41	21
6	21	61	71	61	57	73	268	74	37	27	99	22
7	18	29	65	62	58	85	235	64	32	26	32	74
8	18	76	61	61	59	94	176	57	32	69	25	237
9	18	52	99	56	62	83	145	54	31	129	42	233
10	18	29	135	63	54	71	130	52	29	37	197	52
11	17	77	75	80	52	65	118	49	28	28	40	33
12	17	84	73	65	52	67	108	54	29	34	28	32
13	19	33	62	57	51	69	110	46	30	44	24	187
14	39	26	53	55	46	66	96	44	29	101	23	144
15	24	24	52	67	42	62	87	55	27	128	22	47
16	19	24	52	67	43	59	82	48	26	36	21	37
17	19	24	53	53	44	57	124	43	25	28	21	67
18	18	27	136	70	44	54	141	51	24	26	21	155
19	17	81	201	104	43	52	93	69	24	36	20	70
20	17	77	85	83	41	51	79	55	24	50	19	46
21	18	384	68	66	41	50	74	51	31	28	19	39
22	17	83	61	56	43	49	70	44	34	26	19	37
23	18	46	59	63	52	49	66	42	31	24	19	34
24	17	46	66	53	48	50	91	40	26	24	18	31
25	17	39	363	50	45	48	162	38	24	23	18	30
26	34	207	139	45	43	51	84	37	23	45	18	28
27	32	397	87	49	43	43	69	39	77	36	64	27
28	23	93	78	43	43	59	78	37	34	25	92	28
29	20	63	73	39	---	48	73	35	26	22	49	27
30	19	54	70	44	---	54	65	33	24	23	27	35
31	18	---	66	52	---	227	---	31	---	26	23	---
TOTAL	674	2243	3249	1992	1403	2541	4264	1631	1004	1503	1139	1881
MEAN	21.7	74.8	105	64.3	50.1	82.0	142	52.6	33.5	48.5	36.7	62.7
MAX	43	397	488	121	76	262	679	113	77	229	197	237
MIN	17	18	48	39	41	43	62	31	23	22	18	21
CFSM	.74	2.54	3.56	2.19	1.70	2.79	4.83	1.79	1.14	1.65	1.25	2.13
IN.	.85	2.84	4.11	2.52	1.78	3.22	5.40	2.06	1.27	1.90	1.44	2.38

CAL YR 1986 TOTAL 23396 MEAN 64.1 MAX 697 MIN 17 CFSM 2.18 IN. 29.59
WTR YR 1987 TOTAL 23524 MEAN 64.4 MAX 679 MIN 17 CFSM 2.19 IN. 29.76

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1926, 1962 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
09...	1100	18	358	7.9	17.0	10.7	111	3.6	<200	500
JAN 1987										
21...	1100	67	560	7.9	3.0	14.8	111	2.4	700	500
MAR										
30...	1100	130	293	8.2	13.0	9.7	93	3.0	330	330
JUN										
11...	1030	27	339	7.9	21.5	9.2	105	3.3	200	700
JUL										
15...	1030	161	150	7.4	22.0	7.8	90	3.9	24000	13000
AUG										
12...	1030	125	261	7.9	23.0	9.1	107	2.4	1400	200

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
09...	110	29	10	25	3.4	75	23	43	0.1
JAN 1987									
21...	85	22	7.2	67	2.1	46	19	130	<0.1
MAR									
30...	84	21	7.6	21	1.9	53	20	41	<0.1
JUN									
11...	110	27	9.3	23	2.5	66	21	44	0.2
JUL									
15...	50	13	4.3	9.7	1.6	33	12	24	<0.1
AUG									
12...	82	21	7.2	17	2.3	54	16	30	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
09...	18	200	0.125	2.35	0.24	0.92	3.3	0.390	3.9
JAN 1987									
21...	16	290	0.018	1.32	0.43	0.80	2.1	0.282	3.9
MAR									
30...	15	160	0.056	1.11	0.23	0.81	1.9	0.299	3.3
JUN									
11...	18	180	0.142	1.96	<0.05	0.90	2.9	0.336	--
JUL									
15...	11	95	0.052	0.770	0.15	1.3	2.0	0.280	9.7
AUG									
12...	14	140	0.051	1.44	0.11	1.0	2.4	0.240	6.0

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 11...	1030	<0.5	10	<1	<10	40	<1	10	6

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 11...	780	5	90	<0.10	1	<1	10	2

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ

LOCATION.--Lat 40°50'42", long 74°20'51", Morris County, Hydrologic Unit 02030103, at bridge on New Road, 0.3 mi southwest of overpass of Interstate 280, 0.4 mi upstream of Rockaway River, and 1.4 mi southwest of Pine Brook.

DRAINAGE AREA.--68.5 mi^2.

PERIOD OF RECORD.--Water years 1963 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
27...	1030	E62	349	7.3	11.5	6.7	62	7.0	1700	1700
FEB 1987										
03...	1030	E111	776	7.5	2.0	11.4	84	4.2	>2400	540
APR										
14...	1030	E151	287	7.3	10.5	8.5	76	3.6	240	70
JUN										
30...	1030	E49	410	7.6	24.0	4.8	57	9.9	790	2400
JUL										
22...	1030	E52	378	7.2	26.0	4.7	58	6.3	460	230
SEP										
01...	1030	E75	323	7.4	19.5	6.5	71	5.4	9200	3500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
27...	110	28	9.5	25	3.7	70	26	41	<0.1
FEB 1987									
03...	120	34	9.4	96	2.5	69	28	180	<0.1
APR									
14...	82	21	7.2	21	1.9	55	19	30	0.1
JUN									
30...	130	32	11	30	3.1	84	29	52	0.1
JUL									
22...	120	30	10	26	3.6	80	28	40	0.2
SEP									
01...	100	27	8.9	21	2.6	69	28	33	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
27...	13	190	0.114	1.77	0.75	2.1	3.8	0.600	8.7
FEB 1987									
03...	13	400	0.037	1.07	1.45	2.0	3.1	0.405	8.0
APR									
14...	11	140	0.039	0.860	0.64	1.2	2.0	0.328	4.9
JUN									
30...	15	220	0.023	2.58	1.12	1.3	3.9	0.560	6.1
JUL									
22...	15	200	0.220	2.44	0.62	1.8	4.2	0.520	11
SEP									
01...	13	170	0.250	2.19	0.53	1.4	3.6	0.460	8.7

01381900 PASSAIC RIVER AT PINE BROOK, NJ

LOCATION.--Lat 40°51'45", long 74°19'18", Morris County, Hydrologic Unit 02030103, on downstream left wingwall of bridge on U.S. Route 46, 0.5 mi east of Pine Brook, and 1.3 mi downstream from Rockaway River.
DRAINAGE AREA.--349 mi^2.
PERIOD OF RECORD.--Occasional low-flow measurements, water years 1963-69, 1973, and annual maximum, water years 1966-75, 1978-79. October 1979 to current year. Feb. 19 to Aug. 24, 1939 in files of U.S. Army Corps of Engineers, New York District.
REVISED RECORDS.--WDR NJ-77-1: 1967(M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 149.26 ft above National Geodetic Vertical Datum of 1929. December 1965 to September 1979, crest-stage gage at same site at datum 10.00 ft higher. Feb. 19 to Aug. 24, 1939, water-stage recorder at present NJ Route 506 bridge, 1,600 ft upstream from gage, operated by U.S. Army Corps of Engineers, New York District at datum 13.05 ft higher.
REMARKS.--Records fair except those above 1,000 ft^3/s, and periods of estimated daily discharges, which are poor. Flow regulated by Boonton and Splitrock Reservoirs (see Passaic River basin, reservoirs in) and many small lakes. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year.
AVERAGE DISCHARGE.--8 years, 609 ft^3/s, unadjusted.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s, Apr. 7, 1984, gage height, 22.90 ft, affected by backwater; minimum observed, 70 ft^3/s, Sept. 29, 1980, gage height, 10.15 ft.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810, according to State Geologist's report for 1904, 23.2 ft, Oct. 10, 1903, present datum, from King Survey of highwater marks at present NJ Route 506 bridge, 1,600 ft upstream from gage. Floods of Mar. 13, 1936 and Sept. 24, 1938 reached stages of 20.8 ft and 19.4 ft respectively, at present NJ Route 506 bridge and present datum. Flood of July 23, 1945 reached a stage of 22.3 ft at present site and datum according to U.S. Army Corps of Engineers; minimum observed, 41.1 ft^3/s, Sept. 22, 1964.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0800	2,030	17.91	Mar. 4	0015	2,060	17.95
Nov. 28	1500	2,530	18.47	Apr. 7	0730	*4,290	*19.99
Dec. 4	2215	2,540	18.48				

Minimum daily discharge, 114 ft^3/s, Aug. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	143	1930	1130	e527	703	1320	671	236	180	191	255
2	142	143	1660	1110	e531	1430	1610	554	243	253	168	214
3	150	144	1900	1260	543	1940	1520	494	277	411	172	174
4	292	142	2400	1310	702	2040	1720	649	300	459	186	156
5	244	151	2510	1270	770	1890	2960	842	474	329	182	146
6	187	331	2310	1150	733	1670	3980	919	491	230	514	140
7	156	319	2030	995	682	1480	4250	854	350	189	570	185
8	143	341	1730	808	652	1380	3950	715	246	307	469	429
9	140	492	1500	663	658	1330	3410	579	216	519	342	591
10	138	408	1440	580	657	1260	2860	489	195	552	641	673
11	129	367	1440	688	573	1180	2360	423	179	396	710	658
12	122	588	1400	755	513	1060	1930	386	169	299	624	467
13	121	554	1320	714	e551	945	1590	350	171	432	439	512
14	187	449	1190	637	e516	838	1300	314	168	479	307	907
15	213	355	1000	603	e483	740	1050	314	160	878	239	1290
16	167	288	775	641	e442	658	903	336	158	920	200	1460
17	151	255	627	644	e409	588	829	309	150	816	174	1400
18	142	232	649	598	e381	527	959	277	142	646	162	1340
19	128	451	1090	775	e367	481	1030	344	140	458	151	1310
20	126	627	1330	953	e342	444	993	367	137	470	142	1180
21	125	1150	1400	982	e319	415	882	357	148	403	136	962
22	124	1740	1320	e920	278	391	736	332	191	324	127	735
23	122	2010	1190	e803	308	373	616	305	306	255	120	551
24	125	1900	1020	e736	369	360	561	282	319	218	115	433
25	120	1680	1200	e674	367	350	808	247	299	239	114	372
26	158	1540	1610	e631	343	347	1030	228	265	322	114	344
27	257	2080	1900	e603	339	334	1050	245	305	430	223	310
28	204	2500	1830	e570	335	352	966	280	340	441	441	284
29	178	2440	1640	e523	---	390	903	284	261	364	484	264
30	163	2210	1440	e489	---	360	796	271	200	263	349	258
31	152	---	1290	e502	---	768	---	252	---	223	236	---
TOTAL	4959	26030	46071	24717	13690	27024	48872	13269	7236	12705	9042	18000
MEAN	160	868	1486	797	489	872	1629	428	241	410	292	600
MAX	292	2500	2510	1310	770	2040	4250	919	491	920	710	1460
MIN	120	142	627	489	278	334	561	228	137	180	114	140

CAL YR 1986 TOTAL 241503 MEAN 662 MAX 3690 MIN 116
WTR YR 1987 TOTAL 251615 MEAN 689 MAX 4250 MIN 114

e Estimated

01382000 PASSAIC RIVER AT TWO BRIDGES, NJ

LOCATION.--Lat 40°53'40", long 74°16'23", Passaic County, Hydrologic Unit 02030103, at bridge on Two Bridges Road in Two Bridges, 50 ft upstream from Pompton River.

DRAINAGE AREA.--361 mi^2.

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1969 to September 1974.
pH: June 1969 to September 1974.
WATER TEMPERATURES: October 1962 to September 1974.
DISSOLVED OXYGEN: June 1969 to September 1974.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
30...	1100	E194	524	7.3	13.0	4.1	39	5.7	>350	11
FEB 1987										
11...	1300	E732	614	7.5	1.0	12.5	88	2.0	>2400	1600
APR										
22...	1300	E954	290	7.4	18.5	9.1	97	4.2	2200	80
JUN										
09...	1100	E261	408	7.3	21.5	2.9	33	4.6	--	--
22...	1030	E229	624	7.4	25.0	2.3	28	5.3	80	490
JUL										
14...	1010	E606	327	7.2	26.5	1.9	24	8.7	490	130
AUG										
11...	0915	E918	260	7.0	22.0	4.2	49	4.5	3500	2200
SEP										
03...	1045	E208	388	7.4	20.0	3.0	33	3.9	--	--
22...	0910	E953	275	6.9	17.5	4.9	52	3.0	--	--

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
30...	130	32	11	48	6.4	88	40	71	0.2
FEB 1987									
11...	110	28	8.8	74	2.2	61	27	150	0.1
APR									
22...	75	19	6.7	23	2.7	51	22	40	0.1
JUN									
09...	110	27	9.5	36	3.9	68	31	56	0.1
22...	140	36	13	58	6.2	93	43	92	0.2
JUL									
14...	75	19	6.6	30	3.2	49	26	49	0.5
AUG									
11...	63	16	5.6	22	2.4	42	19	32	0.1
SEP									
03...	110	27	9.4	32	3.8	65	33	45	0.1
22...	62	17	4.8	18	2.6	44	17	33	0.1

01382000 PASSAIC RIVER AT TWO BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 1986									
30...	14	280	0.165	--	2.79	--	2.60	--	4.1
FEB 1987									
11...	12	340	0.020	--	1.10	--	1.20	--	2.1
APR									
22...	9.5	150	0.061	--	0.890	--	0.70	--	1.5
JUN									
09...	16	220	0.180	0.180	2.00	1.90	1.40	1.40	2.0
22...	17	330	0.230	0.220	2.90	3.00	3.00	3.10	4.0
JUL									
14...	11	180	0.190	0.190	1.90	1.90	0.64	0.60	1.4
AUG									
11...	10	130	0.100	0.100	1.40	1.40	0.35	0.35	1.3
SEP									
03...	13	210	0.170	0.150	2.70	2.50	0.94	0.94	2.1
22...	8.7	130	0.040	0.030	0.80	0.78	0.16	0.19	0.70

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT 1986									
30...	--	6.9	1.06	--	--	--	7.7	--	--
FEB 1987									
11...	--	3.2	0.250	--	--	--	7.3	--	--
APR									
22...	--	2.4	0.420	--	--	--	7.7	--	--
JUN									
09...	2.1	4.0	0.700	0.460	0.470	0.370	--	4.8	0.9
22...	3.2	6.9	1.10	0.820	0.870	0.790	--	7.2	1.1
JUL									
14...	1.6	3.3	0.510	0.380	0.370	0.340	--	8.4	0.8
AUG									
11...	1.3	2.7	0.360	0.350	0.310	0.300	--	8.0	1.7
SEP									
03...	2.2	4.8	0.550	0.510	0.490	0.460	--	6.3	0.8
22...	--	1.5	0.120	0.040	0.070	0.050	--	4.2	0.5

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1986												
30...	1100	--	280	0.2	3.2	--	--	1	--	--	--	<1
JUN 1987												
22...	1030	<0.5	--	--	--	<10	2	--	<10	160	<1	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1986											
30...	--	8	10	--	10	--	5900	--	20	--	100
JUN 1987											
22...	20	--	--	8	--	650	--	15	--	170	--

01382000 PASSAIC RIVER AT TWO BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986 30...	--	0.10	--	10	--	<1	--	80	--	2	<1.0
JUN 1987 22...	<0.10	--	6	--	<1	--	10	--	3	--	--

DATE	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986 30...	<0.1	11	3.3	2.1	<0.1	0.2	0.5	<0.1	<0.1	<0.1	<0.1
JUN 1987 22...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986 30...	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987 22...	--	--	--	--	--	--	--	--	--	--	--

01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, NJ

LOCATION.--Lat 41°01'00", long 74°23'47", Morris County, Hydrologic Unit 02030103, on left bank at Macopin intake dam of Newark water-works, 0.4 mi downstream from Macopin River, and 3.0 mi northwest of Butler.

DRAINAGE AREA.--63.7 mi^2.

PERIOD OF RECORD.--January 1898 to current year. Monthly discharge only for some periods, published in WSP 1302. Records for January 1892 to December 1897, published in WSP 541, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder above hewn-rock dam. Datum of gage is 570.00 ft above National Geodetic Vertical Datum of 1929 (levels by New Jersey Geological Survey). Prior to May 22, 1970, at datum 13.55 ft higher.

REMARKS.--No estimated daily discharges. Records good above 10 ft^3/s, and poor below. Records given herein represent flow over intake dam only. Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg Reservoirs, and Echo Lake (see Passaic River basin, reservoirs in). Water diverted at Charlotteburg Reservoir for municipal supply of city of Newark (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. National Weather Service gage-height telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with the Department of Public Affairs, Division of Water Supply, city of Newark. Prior to May 22, 1970, discharge figures furnished by city of Newark.

AVERAGE DISCHARGE.--89 years, 50.7 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 6,100 ft^3/s, Oct. 10, 1903, gage height, 17.4 ft, present datum; no flow over dam during several months of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft^3/s, Apr. 5, gage height, 15.16 ft; minimum, 0.50 ft^3/s, Oct. 6, Aug. 23, 24, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.9	21	17	26	29	41	48	2.6	.88	.81	1.2
2	1.8	2.0	25	22	24	32	28	38	2.9	1.1	.55	.93
3	3.2	2.0	104	19	23	24	25	31	3.4	2.3	2.1	1.1
4	3.3	2.1	53	17	18	21	171	72	4.3	1.0	3.0	1.4
5	.98	2.9	40	15	16	20	408	104	5.5	1.9	7.6	1.6
6	.59	9.6	32	14	13	20	1000	104	2.3	1.7	22	2.4
7	.53	4.3	26	14	12	27	726	80	2.2	.55	5.4	13
8	.54	8.0	23	12	12	37	533	50	2.0	7.4	2.4	34
9	.54	8.4	26	9.9	14	36	389	32	2.5	3.8	3.7	43
10	.54	4.9	30	9.9	12	29	293	22	2.0	2.2	9.4	16
11	.55	7.5	24	13	12	24	254	17	1.4	1.7	3.6	11
12	.55	10	23	11	12	23	219	17	1.6	1.6	2.4	7.0
13	.55	6.0	19	9.9	13	22	214	14	2.0	1.6	2.4	114
14	1.1	1.9	15	8.8	17	20	207	14	2.3	11	2.4	109
15	.75	1.5	15	14	20	19	164	14	.86	8.7	1.8	49
16	.55	1.6	14	17	24	18	101	11	.88	1.6	1.6	30
17	.55	1.5	14	13	13	17	115	9.9	.55	1.6	1.4	29
18	.79	1.7	26	13	10	17	171	9.4	.55	1.2	.63	30
19	.99	5.4	41	18	10	16	134	12	.58	1.0	.60	29
20	1.5	12	30	18	9.8	16	96	9.9	.72	1.3	.54	25
21	1.6	115	25	16	9.8	15	76	9.4	1.8	1.2	.55	20
22	2.2	49	20	16	9.8	15	62	9.0	1.1	.60	.59	17
23	2.5	37	20	26	9.9	14	46	9.2	1.1	.97	.52	16
24	1.2	35	18	43	9.5	14	101	7.9	.72	.99	.51	15
25	1.6	29	75	136	9.8	15	293	7.9	.60	1.0	.50	14
26	2.9	50	43	120	9.6	13	203	7.9	.55	1.3	.51	11
27	4.7	55	35	81	9.7	12	131	6.5	1.8	.74	1.3	12
28	3.2	37	29	71	9.5	14	106	5.4	.88	.75	5.0	12
29	2.4	30	25	55	---	14	105	3.6	.55	1.1	6.6	13
30	2.6	25	23	35	---	14	80	2.4	.71	1.2	1.8	16
31	1.8	---	20	33	---	71	---	2.4	---	.99	1.0	---
TOTAL	48.70	557.2	934	917.5	388.4	678	6492	780.8	50.95	64.97	93.21	693.63
MEAN	1.57	18.6	30.1	29.6	13.9	21.9	216	25.2	1.70	2.10	3.01	23.1
MAX	4.7	115	104	136	26	71	1000	104	5.5	11	22	114
MIN	.53	1.5	14	8.8	9.5	12	25	2.4	.55	.55	.50	.93

CAL YR 1986 TOTAL 16878.79 MEAN 46.2 MAX 976 MIN .53
WTR YR 1987 TOTAL 11699.26 MEAN 32.1 MAX 1000 MIN .50

01383500 WANAQUE RIVER AT AWOSTING, NJ

LOCATION.--Lat 41°09'31", long 74°20'00", Passaic County, Hydrologic Unit 02030103, on right bank 700 ft downstream from dam at outlet of Greenwood Lake at Awosting.

DRAINAGE AREA.--27.1 mi^2.

PERIOD OF RECORD.--May 1919 to current year. Prior to October 1940, published as "at Greenwood Lake".

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922(M), 1928(M), 1936. WDR NJ-79-1: 1933(M), 1936(M), 1945(M), 1948(P), 1951(P), 1952(P), 1953(M), 1955(P), 1956(M), 1957(M), 1958(M), 1960(P), 1961(M), 1968(P), 1969(P). WDR NJ-80-1: 1960(P).

GAGE.--Water-stage recorder. Concrete control since Oct. 31, 1938. Datum of gage is 601.32 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Apr. 1, 1926, nonrecording gage and Apr. 1, 1926, to Oct. 31, 1938, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Flow completely regulated by Greenwood Lake (see Passaic River basin, reservoirs in). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968. Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with North Jersey District Water Supply Commission.

AVERAGE DISCHARGE.--68 years, 54.5 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,800 ft^3/s, Apr. 5, 1984, gage height, 6.65 ft, from rating curve extended above 750 ft^3/s based on theoretical weir formula; no flow at times when gates at Greenwood Lake were closed and water below the spillway.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	0115	209	3.02	Apr. 5	0515	*1,020	*4.62
Apr. 1	0915	239	3.15	Sep. 14	0515	995	4.58

Minimum discharge, 3.1 ft^3/s Nov. 19, 20, June 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	5.4	122	84	32	51	228	69	11	24	7.3	7.0
2	18	5.8	112	105	30	93	206	61	11	24	7.3	7.0
3	18	6.1	189	106	30	110	178	61	11	24	7.1	7.0
4	18	5.9	199	94	30	112	476	75	10	24	7.0	7.0
5	19	6.0	179	78	30	106	969	79	13	24	7.3	7.0
6	19	5.5	154	64	30	98	790	79	9.0	24	7.3	7.0
7	19	5.1	136	56	31	99	642	76	5.9	24	7.3	7.0
8	19	5.3	126	50	32	125	462	69	5.5	24	7.3	6.8
9	19	5.6	122	44	42	166	329	61	5.8	24	7.3	6.9
10	19	5.6	125	43	41	171	245	57	5.5	24	7.3	7.6
11	19	5.7	119	46	39	154	188	51	3.4	24	7.3	7.6
12	19	5.6	115	35	39	135	153	50	9.6	24	7.2	8.0
13	19	5.3	103	40	41	120	136	42	25	21	7.0	267
14	19	5.1	80	34	38	106	112	36	24	17	7.0	929
15	19	5.1	70	40	36	94	96	37	24	17	7.0	625
16	19	5.0	64	51	34	83	82	33	24	17	7.0	391
17	19	4.2	58	54	32	74	77	29	24	14	7.0	279
18	19	3.5	64	62	31	66	76	29	24	7.6	7.0	226
19	19	3.2	107	75	29	60	70	32	24	7.6	7.0	203
20	19	3.3	99	82	28	55	65	29	24	7.6	7.0	167
21	19	34	92	72	27	54	59	26	24	7.6	7.0	136
22	19	84	80	73	28	55	56	24	24	7.3	7.0	116
23	19	97	72	83	33	53	48	24	24	7.3	7.0	101
24	19	102	67	69	33	50	62	24	24	7.3	7.0	86
25	19	94	119	58	29	47	94	21	24	6.8	7.0	79
26	19	102	144	51	29	46	94	18	24	7.1	7.0	65
27	19	158	138	44	28	44	86	16	24	7.3	7.0	57
28	12	157	127	39	27	45	87	15	24	7.3	7.0	50
29	5.4	149	117	35	---	44	84	17	24	7.3	7.1	44
30	5.4	135	110	34	---	43	80	15	24	7.3	7.0	47
31	5.4	---	102	37	---	122	---	13	---	7.3	7.0	---
TOTAL	537.2	1214.3	3511	1838	909	2681	6330	1268	533.7	476.7	220.1	3953.9
MEAN	17.3	40.5	113	59.3	32.5	86.5	211	40.9	17.8	15.4	7.10	132
MAX	19	158	199	106	42	171	969	79	25	24	7.3	929
MIN	5.4	3.2	58	34	27	43	48	13	3.4	6.8	7.0	6.8

CAL YR 1986 TOTAL 21613.0 MEAN 59.2 MAX 379 MIN 3.2
WTR YR 1987 TOTAL 23472.8 MEAN 64.3 MAX 969 MIN 3.2

01384500 RINGWOOD CREEK NEAR WANAQUE, NJ

LOCATION.--Lat 41°07'36", long 74°15'52", Passaic County, Hydrologic Unit 02030103, on right bank 500 ft upstream from Wanaque Reservoir, 0.7 mi downstream from Ringwood Mill Pond dam, and 6.5 mi north of Wanaque.

DRAINAGE AREA.--19.1 mi^2.

PERIOD OF RECORD.--October 1934 to September 1978, October 1985 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NJ-82-1: 1935-77(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 292.67 ft above National Geodetic Vertical Datum of 1929 (levels by New Jersey Geological Survey). Prior to Sept. 30, 1978, at datum 10.0 ft higher.

REMARKS.--Records fair except for periods of estimated daily discharges, which are poor. Records given herein include flow over spillway and through ports in dam when open or through waste gate in dam. No flow through ports or waste gates this year. Flow slightly regulated by Ringwood Mill Pond, Sterling, and Sterling Forest Lakes, and several smaller lakes above station.

COOPERATION.--Gage-height record collected in cooperation with North Jersey Water Supply Commission.

AVERAGE DISCHARGE.--46 years (water years 1935-78, 1986-87) 33.5 ft^3/s, 23.89 in./yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,150 ft^3/s, Mar. 30, 1951, gage height, 13.74 ft, present datum, from floodmark; no flow part of day in most years just after waste gate was closed and water was below ports.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 21	0245	264	11.86	Apr. 4	1600	*749	*13.22

Minimum discharge, 0.48 ft^3/s, Aug. 23, 24, 25, gage height 10.06 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.8	56	45	23	33	175	39	7.7	2.8	1.5	4.4
2	2.5	2.7	58	59	23	90	130	36	6.7	2.9	1.5	4.0
3	3.4	2.9	166	53	25	88	110	36	5.7	5.3	1.8	3.3
4	12	2.8	114	44	26	83	424	57	6.7	4.7	1.7	2.6
5	7.4	3.1	89	38	23	77	419	51	10	3.7	4.1	2.2
6	4.7	11	74	33	22	73	307	48	7.7	3.2	12	2.1
7	3.7	8.5	65	32	22	74	255	42	6.0	2.9	6.7	15
8	3.2	12	57	30	22	97	207	37	5.9	4.8	4.0	58
9	3.2	14	59	28	23	115	166	33	5.1	5.8	3.1	71
10	2.8	9.7	68	26	21	114	136	31	4.3	4.1	7.0	28
11	2.7	17	57	29	21	102	113	27	4.0	4.6	5.0	17
12	2.6	22	53	27	20	91	97	25	4.0	9.4	3.3	16
13	2.9	14	46	25	20	82	90	22	4.9	15	2.6	90
14	4.3	11	38	24	31	75	73	20	6.5	23	2.2	164
15	4.5	9.2	35	27	25	69	62	22	4.5	26	1.9	105
16	3.8	8.9	34	34	28	62	53	e23	4.1	11	1.6	80
17	3.3	8.5	33	28	26	56	63	e20	3.3	8.0	1.4	75
18	2.9	8.3	47	28	22	50	72	e19	3.2	5.8	1.2	72
19	2.8	17	99	34	20	45	61	e21	3.0	4.8	.90	71
20	2.1	20	74	34	20	40	55	17	2.6	4.4	.75	58
21	3.0	208	62	33	19	36	48	16	2.9	4.1	.60	49
22	2.5	103	54	30	19	35	43	15	2.5	3.8	.61	41
23	2.5	63	49	32	20	35	38	14	2.6	3.5	.49	38
24	2.7	52	46	42	20	32	54	13	2.7	2.9	.52	35
25	2.6	42	141	48	20	30	78	12	2.8	2.6	.56	35
26	3.5	74	100	33	19	28	59	11	2.5	2.5	.63	28
27	5.2	133	82	22	19	27	51	11	3.6	2.3	2.5	24
28	4.2	96	71	33	19	27	53	11	3.8	2.2	8.4	21
29	3.6	79	63	36	---	27	51	9.9	3.5	1.8	16	19
30	3.2	66	57	29	---	26	45	8.9	3.3	1.5	8.7	21
31	2.7	---	51	26	---	146	---	8.5	---	1.5	4.8	---
TOTAL	112.9	1121.4	2098	1042	618	1965	3588	756.3	136.1	180.9	108.06	1249.6
MEAN	3.64	37.4	67.7	33.6	22.1	63.4	120	24.4	4.54	5.84	3.49	41.7
MAX	12	208	166	59	31	146	424	57	10	26	16	164
MIN	2.1	2.7	33	22	19	26	38	8.5	2.5	1.5	.49	2.1
CFSM	.19	1.96	3.54	1.76	1.16	3.32	6.26	1.28	.24	.31	.18	2.18
IN.	.22	2.18	4.09	2.03	1.20	3.83	6.99	1.47	.27	.35	.21	2.43

CAL YR 1986 TOTAL 12224.00 MEAN 33.5 MAX 213 MIN 1.2 CFSM 1.75 IN. 23.80
WTR YR 1987 TOTAL 12976.19 MEAN 35.6 MAX 424 MIN .49 CFSM 1.86 IN. 25.27

e Estimated

01387000 WANAQUE RIVER AT WANAQUE, NJ

LOCATION.--Lat 41°02'33", long 74°17'36", Passaic County, Hydrologic Unit 02030103, on left bank 750 ft downstream from Raymond Dam in Wanaque, and 50 ft upstream from bridge on State Highway 511.

DRAINAGE AREA.--90.4 mi^2, considered as 94 mi^2 Oct. 1, 1928 to Sept. 30, 1934.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--December 1903 to December 1905 (gage heights only), September 1912 to April 1915, May 1919 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 210.00 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Dec. 16, 1903, to Dec. 31, 1905, nonrecording gage on highway bridge at site 50 ft downstream at different datum. Sept. 15, 1912, to Apr. 1, 1922, nonrecording gage at site 200 ft downstream from present concrete control at different datum. Apr. 1, 1922 to Mar. 14, 1931, water-stage recorder at site 400 ft downstream from present concrete control at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Greenwood Lake (see Passaic River basin, reservoirs in) 11 mi above station, and since 1928 by Wanaque Reservoir (see Passaic River basin, reservoirs in). North Jersey Water Supply Commission diverts water for municipal supply from Wanaque Reservoir. Water is diverted to Wanaque Reservoir from Posts Brook at Wanaque and from Ramapo River at Pompton Lakes (see Passaic River basin, diversions). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968. Several measurements of water temperature, other than those published, were made during the year. National Weather Service rain-gage and gage-height telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with North Jersey District Water Supply Commission.

AVERAGE DISCHARGE.--70 years, (water years 1913, 1914, 1920-87), 78.3 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft^3/s, Apr. 5, 1984, gage height, 10.82 ft, from rating curve extended above 5,000 ft^3/s; minimum daily, 0.06 ft^3/s, Oct. 11, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,040 ft^3/s, Apr. 4, gage height, 7.49 ft; minimum daily, 17 ft^3/s, many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	20	19	22	85	19	459	77	26	19	17	18
2	20	20	21	23	149	18	530	63	19	19	17	17
3	21	20	25	22	158	18	434	73	20	19	18	17
4	19	20	21	22	40	17	1470	101	20	19	18	17
5	19	20	20	22	18	19	2530	121	19	19	19	17
6	19	20	20	22	18	18	1740	103	19	20	18	17
7	19	20	20	53	17	18	1380	102	19	19	18	19
8	19	20	19	73	17	18	999	84	20	18	17	18
9	19	20	21	79	18	17	725	66	23	19	17	18
10	19	20	23	86	17	19	536	71	22	18	18	17
11	19	20	22	86	18	18	405	54	23	18	18	17
12	19	20	23	86	17	19	323	52	21	17	18	17
13	19	21	23	86	17	18	290	45	21	19	18	19
14	19	20	23	87	17	17	212	42	21	20	17	18
15	19	20	22	86	17	17	179	45	22	18	17	18
16	19	20	22	86	17	17	150	42	22	18	17	18
17	19	20	22	87	17	18	145	40	22	18	18	18
18	18	21	22	87	17	17	156	41	19	17	17	18
19	18	21	22	86	17	18	142	40	18	18	18	18
20	19	22	21	156	18	17	122	40	18	18	18	18
21	19	23	21	213	17	18	94	40	19	20	18	18
22	18	20	21	212	17	19	84	40	18	19	19	18
23	19	20	21	158	17	19	61	40	17	19	19	18
24	20	19	21	85	18	18	91	40	18	17	19	18
25	20	20	24	85	18	17	167	40	17	18	19	18
26	20	22	22	142	18	17	173	40	17	18	18	18
27	20	21	22	203	17	17	147	39	18	18	19	18
28	21	20	22	197	17	17	134	39	18	18	19	18
29	19	20	22	197	---	17	126	39	17	18	18	19
30	20	20	22	148	---	18	141	39	17	17	18	19
31	20	---	22	85	---	39	---	39	---	18	18	---
TOTAL	597	610	671	3082	848	573	14145	1737	590	570	557	536
MEAN	19.3	20.3	21.6	99.4	30.3	18.5	471	56.0	19.7	18.4	18.0	17.9
MAX	21	23	25	213	158	39	2530	121	26	20	19	19
MIN	18	19	19	22	17	17	61	39	17	17	17	17

CAL YR 1986 TOTAL 26802 MEAN 73.4 MAX 817 MIN 17
WTR YR 1987 TOTAL 24516 MEAN 67.2 MAX 2530 MIN 17

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1963 to September 1980.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and selected water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
29...	1130	E19	140	6.9	9.5	3.2	--	1.6	17	17
FEB 1987										
12...	1130	17	127	7.4	2.0	12.5	92	1.5	--	--
APR										
27...	1100	147	111	7.5	11.5	9.5	87	1.2	--	--
JUN										
17...	1045	22	149	7.6	21.0	8.8	99	2.4	33	49
JUL										
29...	1030	17	121	7.4	21.0	8.4	95	1.5	2	170
SEP										
08...	1030	17	125	7.4	19.0	8.7	94	0.9	130	350

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
29...	37	10	3.0	9.4	1.0	31	5.4	13	0.1
FEB 1987									
12...	37	10	3.0	11	0.6	24	14	18	0.1
APR									
27...	31	8.2	2.6	8.8	0.6	19	12	18	<0.1
JUN									
17...	33	8.8	2.7	9.2	0.8	20	11	18	<0.1
JUL									
29...	33	8.8	2.7	9.3	0.7	20	11	12	0.1
SEP									
08...	35	9.4	2.7	9.0	0.8	21	13	18	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
29...	7.2	68	0.013	<0.05	0.57	0.99	--	0.080	3.7
FEB 1987									
12...	3.7	75	0.002	0.19	0.03	0.90	1.1	<0.010	2.4
APR									
27...	3.2	65	0.007	0.08	0.11	0.29	0.37	<0.020	2.4
JUN									
17...	1.7	64	0.008	<0.05	<0.05	0.49	--	0.012	3.0
JUL									
29...	2.1	59	<0.003	0.07	0.05	0.53	0.60	<0.020	3.2
SEP									
08...	2.4	68	0.004	0.08	0.08	0.61	0.69	<0.020	3.3

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1986												
29...	1130	<0.5	--	--	--	10	2	--	<10	30	<1	--
29...	1130	--	130	6.0	9.9	--	--	3	--	--	--	<1
JUN 1987												
17...	1045	<0.5	--	--	--	10	<1	--	<10	20	<1	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1986											
29...	<10	--	--	9	--	2200	--	<5	--	2600	--
29...	--	9	10	--	20	--	8000	--	130	--	390
JUN 1987											
17...	30	--	--	3	--	20	--	<5	--	40	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986											
29...	<0.10	--	2	--	<1	--	140	--	<1	--	--
29...	--	0.79	--	10	--	<1	--	100	--	40	<1.0
JUN 1987											
17...	<0.10	--	3	--	<1	--	<10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986											
29...	--	--	--	--	--	--	--	--	--	--	--
29...	1.9	<1.0	<0.1	2.5	0.4	<0.1	<0.1	4.6	<0.1	<0.1	0.2
JUN 1987											
17...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1986											
29...	--	--	--	--	--	--	--	--	--	--	--
29...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987											
17...	--	--	--	--	--	--	--	--	--	--	--

01387420 RAMAPO RIVER AT SUFFERN, NY

LOCATION.--Lat 41°07'06", long 74°09'38", Rockland County, Hydrologic Unit 02030103, on left bank, 145 ft downstream from highway bridge on New York State Thruway at Suffern, and 1.1 mi upstream from Mahwah River.

DRAINAGE AREA.--93.0 mi^2.

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 264.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow affected by diversion from Spring Valley Water Company well field upstream from station and by occasional regulation by Lake Sebago. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 173 ft^3/s, unadjusted.

COOPERATION.--Figures of pumpage from well field provided by Spring Valley Water Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft^3/s, Apr. 5, 1984, gage height, 15.38 ft, from rating curve extended above 5,400 ft^3/s; minimum discharge, 2.6 ft^3/s, Sept. 30, 1981, gage height, 1.23 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0430	1,620	6.64	Apr. 5	0030	*5,920	*11.72
Apr. 1	0200	2,150	7.69	Sept. 14	0700	1,760	6.92

Minimum discharge, 9.2 ft^3/s, Aug. 16, gage height, 1.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	22	223	196	114	222	1720	154	27	16	13	33
2	22	22	210	267	108	491	818	135	25	17	13	28
3	25	22	782	264	118	414	526	128	32	28	18	23
4	67	e22	659	e220	130	332	2800	227	29	22	16	19
5	57	e25	398	e200	123	273	4250	230	40	18	22	16
6	38	e40	297	e180	111	248	2030	217	39	15	47	16
7	28	e50	250	e160	110	296	1480	197	30	16	29	37
8	24	e70	221	e150	110	564	1010	166	27	24	22	265
9	22	e110	219	130	120	798	704	139	23	24	18	431
10	19	e78	248	130	122	621	509	123	20	19	29	244
11	18	e80	227	156	106	409	396	110	18	18	26	152
12	18	e130	213	142	102	323	317	97	18	35	20	103
13	19	e110	192	126	102	274	295	87	21	94	16	513
14	28	e90	156	114	100	240	247	77	23	60	16	1560
15	28	e68	141	143	89	215	210	78	20	97	15	648
16	26	e60	139	210	86	199	191	78	18	52	12	289
17	27	e54	139	198	86	185	198	69	16	34	11	242
18	27	e50	181	184	80	170	238	61	16	27	11	237
19	25	e86	439	209	81	160	217	69	16	21	11	264
20	25	e88	428	209	75	154	187	69	16	20	11	228
21	24	e1300	312	185	70	148	163	63	19	22	11	197
22	20	e900	249	e170	68	160	145	57	39	20	11	166
23	18	e540	219	e200	78	157	122	56	25	16	11	161
24	18	e350	202	e190	81	148	163	65	19	15	11	141
25	18	229	602	e170	75	138	298	56	17	15	11	137
26	24	320	617	e140	71	133	258	50	15	15	11	107
27	32	776	404	137	69	124	212	45	26	13	25	88
28	30	503	314	130	68	122	204	43	30	12	41	76
29	27	341	267	122	---	122	206	40	22	12	55	67
30	25	268	237	123	---	115	185	37	17	12	51	71
31	23	---	216	131	---	1140	---	32	---	12	30	---
TOTAL	822	6804	9401	5286	2653	9095	20299	3055	703	821	644	6559
MEAN	26.5	227	303	171	94.7	293	677	98.5	23.4	26.5	20.8	219
MAX	67	1300	782	267	130	1140	4250	230	40	97	55	1560
MIN	18	22	139	114	68	115	122	32	15	12	11	16
ǂ	0.0	8.4	13	14	14	15	14	15	7.2	4.7	2.1	9.2

CAL YR 1986 TOTAL 61706 MEAN 169 MAX 1640 MIN 12 ǂ 11
WTR YR 1987 TOTAL 66142 MEAN 181 MAX 4250 MIN 11 ǂ 9.7

e Estimated

ǂ Diversion, in cubic feet per second, by pumpage from well field upstream of station.

01387450 MAHWAH RIVER NEAR SUFFERN, NY

LOCATION.--Lat 41°08'27", long 74°07'01", Rockland County, Hydrologic Unit 02030103, on left bank 13 ft upstream from bridge on U.S. Highway 202, 2.5 mi northeast of Suffern, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--August 1958 to current year.

REVISED RECORDS.--WDR NY-79-1: 1977.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 321.57 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 18, 1976, water-stage recorder at site on right bank 13 ft downstream, at present datum.

REMARKS.--No estimated daily discharges. Records fair. Occasional regulation from unknown source. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--29 years, 24.9 ft^3/s, 27.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft^3/s, Nov. 8, 1977, gage height, 9.91 ft, from rating curve extended above 850 ft^3/s on basis of contracted-opening measurement at gage height 9.91 ft; minimum discharge, 0.05 ft^3/s, Oct. 20, 21, 1970, result of temporary pumping from gage pool.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0445	623	5.34	Apr. 4	1700	*1,070	*6.71
Nov. 27	0030	272	4.09	Apr. 6	1315	336	4.37
Dec. 3	0615	239	3.93	Sept. 13	2100	303	4.23
Mar. 31	1730	436	4.75				

Minimum discharge, 1.0 ft^3/s, Aug. 26, 27, gage height, 1.30 ft.

REVISIONS.--The minimum daily discharge for water year 1986 has been revised to 3.4 ft^3/s, Sept. 18, 20; revised daily discharges, in cubic feet per second, for September 1986, are given below. These figures supersede those published in the report for 1986.

Sept. 5	7.0	Sept. 13	4.2	Sept. 19	3.5	Sept. 25	3.5
6	10	14	3.8	20	3.4	26	3.6
7	7.9	15	3.6	21	5.0	27	6.8
9	5.8	16	3.7	22	4.3	28	5.0
10	4.8	17	3.6	23	3.7	29	3.7
11	4.6	18	3.4	24	3.8	30	3.7
12	4.5						

	TOTAL	MEAN	MAX	MIN	CFSM	IN
September 1986	151.2	5.04	10	3.4	.41	.46
Wtr Yr 1986	8991.3	24.6	304	3.4	2.00	27.2

01387450 MAHWAH RIVER NEAR SUFFERN, NY--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	3.5	33	27	20	73	162	26	6.3	2.7	1.4	6.7
2	4.4	3.2	33	58	19	88	79	24	6.4	3.6	1.3	4.5
3	4.4	3.2	162	50	21	64	56	24	6.6	9.3	4.3	3.3
4	12	3.1	87	38	24	52	469	39	7.1	4.7	3.9	2.7
5	4.8	3.1	58	32	21	44	378	36	11	3.4	7.5	2.4
6	3.6	9.6	46	29	19	40	245	30	7.4	2.7	33	2.2
7	3.0	5.8	40	28	19	48	175	27	6.5	3.7	7.6	7.1
8	2.7	13	36	27	20	61	112	24	6.4	8.2	5.1	28
9	2.9	15	37	24	21	65	83	22	5.9	4.8	4.2	62
10	2.6	11	42	24	18	53	67	20	5.3	3.3	10	23
11	2.5	18	35	30	18	42	57	19	4.8	2.7	5.5	15
12	2.4	24	32	27	18	38	49	17	4.9	3.8	3.9	11
13	2.6	17	28	24	17	35	51	16	6.0	8.1	3.2	101
14	5.9	13	24	22	15	31	43	15	5.7	10	2.8	126
15	4.5	11	22	28	15	28	38	16	4.6	16	2.6	50
16	3.3	9.7	22	35	14	26	34	15	3.8	6.7	2.4	30
17	2.9	10	22	29	14	24	42	14	3.3	4.8	2.2	27
18	2.6	8.6	33	30	13	22	54	13	3.0	3.9	2.0	28
19	2.6	16	73	39	13	21	41	15	2.9	3.5	1.8	32
20	2.7	15	53	33	13	20	35	13	2.8	3.6	1.7	27
21	2.6	295	42	29	12	19	32	13	7.5	4.6	1.5	23
22	2.7	97	35	27	13	19	29	12	5.2	3.5	1.3	20
23	2.9	53	31	29	14	18	27	11	4.2	2.9	1.3	18
24	3.1	41	29	25	14	17	40	10	3.5	2.7	1.1	17
25	3.0	33	100	22	13	16	55	9.8	3.0	2.4	1.1	17
26	3.7	69	68	22	13	16	41	9.4	2.7	2.2	1.1	14
27	5.9	147	52	20	13	15	35	9.3	9.1	2.1	8.9	13
28	4.2	72	43	19	13	18	36	9.2	5.5	2.0	12	12
29	3.5	51	37	18	---	16	33	8.7	3.7	1.9	12	11
30	3.9	40	33	19	---	16	30	7.7	3.0	1.7	6.3	12
31	4.0	---	30	22	---	209	---	7.0	---	1.6	4.3	---
TOTAL	116.3	1110.8	1418	886	457	1254	2628	532.1	158.1	137.1	157.3	745.9
MEAN	3.75	37.0	45.7	28.6	16.3	40.5	87.6	17.2	5.27	4.42	5.07	24.9
MAX	12	295	162	58	24	209	469	39	11	16	33	126
MIN	2.4	3.1	22	18	12	15	27	7.0	2.7	1.6	1.1	2.2
CFSM	.31	3.01	3.72	2.32	1.33	3.29	7.12	1.40	.43	.36	.41	2.02
IN.	.35	3.36	4.29	2.68	1.38	3.79	7.95	1.61	.48	.41	.48	2.26

CAL YR 1986 TOTAL 9120.7 MEAN 25.0 MAX 304 MIN 2.4 CFSM 2.03 IN. 27.6
WTR YR 1987 TOTAL 9600.5 MEAN 26.3 MAX 469 MIN 1.1 CFSM 2.14 IN. 29.0

01387500 RAMAPO RIVER NEAR MAHWAH, NJ

LOCATION.--Lat 41°05'51", long 74°09'48", Bergen County, Hydrologic Unit 02030103, on left bank 350 ft downstream from State Highway 17, 0.6 mi downstream from Mahwah River, and 1.0 mi west of Mahwah. Water-quality samples collected at bridge, 350 ft upstream from gage, at high flows.
DRAINAGE AREA.--120 $mi.^2$

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1902 to December 1906, September 1922 to current year. October 1902 to February 1905 monthly discharge only, published in WSP 1302. Figures of daily discharge Feb. 10, 1903, to Dec. 31, 1904, published in WSP 97, 125, are unreliable and should not be used. Gage-height records for 1903-14 are contained in reports of the National Weather Service.
REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD-NJ 1971: 1968(M). WDR NJ-82-1: Drainage area.
GAGE.--Water-discharge recorder. Datum of gage is 253.10 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 31, 1906, nonrecording gage on former bridge at site 250 ft downstream at different datum. Sept. 1, 1922 to Dec. 23, 1936, water-stage recorder just below former bridge at present datum.
REMARKS.--No estimated daily discharges. Records fair. Flow affected by diversion from Spring Valley (NY) Water Company well field upstream from station (see station 01387420). Occasional regulation from lakes and ponds upstream from the station. Several measurements of water temperature, other than those published, were made during the year. Gage-height telemeter at station.
AVERAGE DISCHARGE.--69 years (water years 1903-06,1923-87), 230 ft^3/s, 26.03 in./yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft^3/s, April 5, 1984, gage height, 13.35 ft, from rating curve extended above 1,400 ft^3/s; minimum, 4.6 ft^3/s, Sept. 30, 1981 (possible regulation); minimum daily, 6.1 ft^3/s, Sept. 30, 1981 (possible regulation).
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1145	1,960	7.08	Apr. 5	0130	*6,410	*9.96
Apr. 1	0130	2,600	7.68	Sept. 14	0845	1,960	7.08

Minimum discharge, 19 ft^3/s, Aug. 24, 25, 26.
REVISIONS.--The peak discharge, previously not published, for Jan. 27, 1986, is 2,300 ft^3/s; revised daily discharges, in cubic feet per second, for periods in January 1986 are given below. These figures supersede those published in the report for 1986.

Jan. 26...1,500 Jan. 27...2,100 Jan. 28...1,100

	TOTAL	MEAN	MAX	MIN	(FT^3/S)/MI^2	IN.
January 1986	8688	280	2100	51	2.34	2.69
WTR YR 1986	86350	237	2100	28	1.98	26.82

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	28	308	262	167	380	2080	252	51	30	21	51
2	31	29	298	413	160	689	999	232	47	41	21	39
3	41	28	1030	405	178	561	641	231	54	58	52	32
4	113	28	828	316	195	468	3100	347	51	41	30	28
5	79	31	532	265	179	400	4900	341	75	33	107	26
6	48	81	417	237	160	364	2530	316	63	30	205	25
7	37	63	355	224	162	409	1870	289	50	34	57	65
8	32	112	311	217	161	654	1290	256	47	68	40	355
9	29	148	317	198	173	893	928	227	43	46	35	531
10	28	111	363	193	161	722	707	207	39	36	75	315
11	27	146	323	231	152	514	567	188	36	32	43	193
12	27	219	301	216	147	432	476	171	39	41	34	131
13	27	160	263	189	143	383	452	153	41	124	29	595
14	53	122	218	174	132	344	404	135	42	123	28	1700
15	42	98	201	204	121	307	356	138	38	162	28	734
16	35	82	198	287	131	278	326	131	35	77	24	368
17	36	73	199	268	115	255	344	113	32	51	22	328
18	35	66	273	255	111	237	403	106	31	41	22	323
19	32	142	592	303	109	223	360	121	31	36	22	346
20	30	153	551	298	102	214	317	113	30	35	21	298
21	29	1750	422	259	100	204	288	104	61	36	21	255
22	27	1000	346	329	101	215	268	97	61	33	21	219
23	26	530	300	431	114	211	244	91	44	28	20	207
24	25	408	278	320	115	199	303	100	36	26	20	188
25	25	342	790	333	107	187	461	89	33	26	20	181
26	40	498	753	218	104	179	388	81	30	25	20	143
27	44	1000	519	202	103	168	321	76	71	24	83	118
28	39	650	422	191	102	174	316	75	57	22	101	104
29	35	463	367	159	---	170	313	70	38	21	94	92
30	32	374	326	162	---	162	284	64	32	21	66	105
31	29	---	292	191	---	1390	---	57	---	21	40	---
TOTAL	1162	8935	12693	7950	3805	11986	26236	4971	1338	1422	1422	8095
MEAN	37.5	298	409	256	136	387	875	160	44.6	45.9	45.9	270
MAX	113	1750	1030	431	195	1390	4900	347	75	162	205	1700
MIN	25	28	198	159	100	162	244	57	30	21	20	25
CFSM	.31	2.48	3.41	2.14	1.13	3.22	7.29	1.34	.37	.38	.38	2.25
IN.	.36	2.77	3.93	2.46	1.18	3.72	8.13	1.54	.41	.44	.44	2.51

CAL YR 1986 TOTAL 83535 MEAN 229 MAX 2100 MIN 25 CFSM 1.91 IN. 25.89
WTR YR 1987 TOTAL 90015 MEAN 247 MAX 4900 MIN 20 CFSM 2.06 IN. 27.90

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: February 1964 to June 1965.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
03...	1300	E28	454	7.6	9.0	10.2	88	3.7	--	--
FEB 1987										
05...	1130	E179	482	8.0	2.0	16.1	116	1.5	<200	20
APR										
23...	1130	244	307	7.9	14.5	9.9	97	2.4	5400	1700
JUN										
16...	1130	35	486	7.7	22.0	--	--	3.0	1300	80
JUL										
21...	1100	35	423	7.6	23.5	7.8	92	1.2	3300	<200
AUG										
27...	1130	102	--	7.7	18.0	7.9	--	6.2	22000	24000

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
03...	120	32	8.8	43	2.5	77	24	68	0.1
FEB 1987									
05...	93	26	6.9	56	1.4	56	22	110	0.1
APR									
23...	85	23	6.6	25	1.1	57	17	45	0.1
JUN									
16...	140	38	11	41	2.2	95	23	68	0.1
JUL									
21...	110	29	8.1	37	2.2	78	20	64	0.2
AUG									
27...	92	25	7.3	28	2.1	68	20	42	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
03...	7.9	230	--	--	0.15	0.91	--	0.240	3.5
FEB 1987									
05...	7.1	260	0.032	1.08	0.29	0.82	1.9	0.116	4.3
APR									
23...	5.1	160	0.043	0.760	0.47	0.86	1.6	0.110	3.1
JUN									
16...	9.1	250	0.078	2.36	0.16	0.94	3.3	0.183	3.8
JUL									
21...	7.4	210	0.024	1.78	0.10	0.82	2.6	0.240	3.6
AUG									
27...	5.3	170	0.046	1.42	0.20	1.1	2.6	0.270	7.9

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ

LOCATION.--Lat 40°59'33", long 74°16'44", Passaic County, Hydrologic Unit 02030103, on right end of dam at pumping station in Pompton Lakes and 2.0 mi upstream from mouth.

DRAINAGE AREA.--160 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 1552: 1922(M), 1924-25, 1929-31(M), 1934-35(M). WRD-NJ 1970: 1968-69.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 190.96 ft above National Geodetic Vertical Datum of 1929. Prior to October 1, 1981, at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Diversion by North Jersey District Water Supply Commission to Wanaque Reservoir since December 1953 (see Passaic River basin, diversions) and to Oradell Reservoir by Hackensack Water Company since February 1985 (see Hackensack River basin, diversions) for municipal supply (records given herein). Slight regulation by Pompton Lake, capacity, 300,000,000 gal. Several measurements of water temperature were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--66 years, 303 ft^3/s, 25.72 in./yr, adjusted for diversion since Dec. 1, 1953.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,400 ft^3/s, April 5, 1984, gage height, 15.21 ft, in gage well, 15.33 ft, from flood marks, present datum; no flow part of September 30, 1980 and many days in 1981, 1982, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1145	2,030	11.49	Apr. 5	0800	*6,490	*13.07
Apr. 1	0915	2,540	11.71	Sept. 14	1600	1,790	11.38

Minimum discharge, 23 ft^3/s, Aug. 1, 2, 25, gage height, 10.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	55	202	366	247	413	2300	342	76	47	31	71
2	47	84	166	558	222	928	1390	312	69	52	24	63
3	53	57	1010	588	243	789	880	311	71	82	37	56
4	114	46	969	460	281	637	2350	443	84	67	38	49
5	128	50	567	381	264	539	5710	482	92	52	38	47
6	87	108	382	334	238	473	3330	430	87	47	52	44
7	65	113	286	311	226	503	2340	388	74	48	185	71
8	55	135	222	299	245	706	1680	338	71	110	200	286
9	53	212	209	293	256	978	1250	304	81	96	210	678
10	43	168	292	259	239	922	975	276	64	72	196	435
11	44	169	238	311	233	681	786	264	55	57	92	268
12	44	299	182	309	224	557	653	234	57	55	69	193
13	42	240	134	274	217	489	604	208	60	98	57	428
14	66	189	156	251	193	445	550	193	55	172	54	1580
15	77	158	109	267	181	398	480	200	55	298	49	1160
16	61	132	82	345	159	359	419	192	49	147	45	539
17	53	119	101	358	169	335	443	169	45	91	38	433
18	54	107	169	339	172	303	533	149	38	74	33	469
19	52	180	630	423	158	282	493	167	38	67	31	503
20	47	199	744	419	154	273	435	167	39	63	31	402
21	43	1660	582	367	151	262	403	154	84	60	31	324
22	48	1420	475	338	151	264	355	141	92	55	31	269
23	43	775	400	343	169	261	315	137	79	46	30	247
24	46	545	379	324	170	245	358	132	59	32	28	219
25	41	375	968	284	156	234	630	124	50	37	26	224
26	54	458	1030	277	157	219	571	121	51	41	28	186
27	70	1240	744	244	154	218	449	104	99	36	79	158
28	60	941	589	228	143	222	427	106	102	32	160	142
29	54	464	504	229	---	224	437	102	67	34	192	139
30	59	303	446	229	---	207	392	93	51	33	116	144
31	49	---	404	266	---	899	---	83	---	33	76	---
TOTAL	1800	11001	13371	10274	5572	14265	31938	6866	1994	2234	2307	9827
MEAN	58.1	367	431	331	199	460	1065	221	66.5	72.1	74.4	328
MAX	128	1660	1030	588	281	978	5710	482	102	298	210	1580
MIN	41	46	82	228	143	207	315	83	38	32	24	44
(†)	15.3	33.9	122	0	0	0	0	0	0	0	0	0
MEAN‡	73.4	401	553	331	199	460	1065	221	66.5	72.1	74.4	328
CFSM‡	.45	2.50	3.46	2.07	1.24	2.88	6.65	1.38	.42	.45	.47	2.05
IN.‡	.53	2.79	3.98	2.39	1.30	3.32	7.43	1.60	.46	.52	.54	2.28

CAL YR 1986 TOTAL 103837 MEAN 284 MAX 2270 MIN 41 MEAN‡ 304 CFSM‡ 1.90 IN.‡ 25.79
WTR YR 1987 TOTAL 111449 MEAN 305 MAX 5710 MIN 24 MEAN‡ 320 CFSM‡ 2.00 IN.‡ 27.14

† Diversion, in cubic feet per second, at station to Wanaque and Oradell Reservoirs. Records of diversion furnished by North Jersey District Water Supply Commission and Hackensack Water Company.
‡ Adjusted for diversion.

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923, 1962-67, 1982, 1987.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
JUN 1987												
09...	1320	68	373	8.2	22.5	11.9	140	2.5	120	32	8.8	28
22...	1215	77	393	8.0	24.5	8.0	98	7.2	120	31	9.3	29
JUL												
14...	1130	90	375	8.2	27.0	9.7	124	3.6	110	31	8.7	29
AUG												
11...	1100	0.90	311	8.9	24.5	10.7	130	5.7	91	25	7.0	24
SEP												
03...	1150	56	353	8.1	21.0	10.1	113	3.0	100	29	7.9	28
22...	1200	266	235	7.5	17.5	8.7	92	1.5	62	17	4.7	18

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
JUN 1987											
09...	1.7	81	20	56	0.1	4.5	200	0.050	0.050	1.00	0.95
22...	--	83	20	60	0.1	4.1	--	0.020	0.030	0.50	0.55
JUL											
14...	1.7	80	19	57	0.1	6.7	200	0.020	0.020	0.50	0.48
AUG											
11...	1.6	64	16	43	0.1	6.3	160	0.020	0.020	0.40	0.36
SEP											
03...	1.7	69	20	53	0.1	7.6	190	0.030	0.020	0.90	0.88
22...	3.2	43	17	32	0.1	8.7	130	0.010	<0.010	0.80	0.72

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
JUN 1987											
09...	0.07	0.05	1.1	0.50	2.1	0.110	0.030	0.010	<0.010	2.6	0.4
22...	0.19	0.20	1.0	0.90	1.5	0.090	0.050	0.030	0.030	6.2	>1.7
JUL											
14...	0.12	0.10	1.3	1.0	1.8	0.100	0.020	0.030	0.020	4.2	1.3
AUG											
11...	<0.01	0.01	1.5	0.50	1.9	0.180	0.020	0.020	0.020	2.2	3.3
SEP											
03...	0.03	0.04	1.0	0.80	1.9	0.090	0.040	0.040	0.020	4.0	--
22...	0.06	0.03	0.50	--	1.3	0.080	0.030	0.050	0.040	3.9	0.4

01388500 POMPTON RIVER AT POMPTON PLAINS, NJ

LOCATION.--Lat 40°58'09", long 74°16'56", Passaic County, Hydrologic Unit 02030103, on left bank in Passaic Valley Water Commission pumping station, 800 ft below confluence of Pequannock and Ramapo Rivers, 100 ft upstream from bridge on Jackson Avenue (Pompton Plains Cross Road), and 0.7 mi east of Pompton Plains.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--March 1903 to December 1904, May 1940 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1202: 1945(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 160.00 ft above National Geodetic Vertical Datum of 1929. March 1903 to December 1904, nonrecording gage on main spillway of dam 2,000 ft upstream at different datum. May 1940 to September 1964 two water-stage recorders, each above a concrete dam about 2,000 ft upstream at datum 14.46 ft higher.

REMARKS.--Records fair. Water diverted from reservoirs on Pequannock and Wanaque Rivers, from Pompton River to Point View Reservoir, and from Ramapo River to Wanaque Reservoir and Oradell Reservoir (from February 1985) for municipal supply (see Hackensack River basin, diversions into and from and Passaic River basin, diversions). Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg and Echo Lake Reservoirs on Pequannock River and by Greenwood Lake and Wanaque Reservior on Wanaque River (see Passaic River basin, reservoirs in). Several measurements of water temperature were made during the year. National Weather Service gage-height telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with Passaic Valley Water Commission.

AVERAGE DISCHARGE.--47 years, (water years 1904, 1941-87), 485 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 28,340 ft^3/s, Oct. 10, 1903, gage height, 14.3 ft, site and datum then in use, by computation of peak flow over dam; no flow Aug. 18-20, 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1300	3,010	11.60	Apr. 5	unknown	*12,600	*18.91
Apr. 1	----	3,800	---				

Minimum discharge, 54 ft^3/s, Aug. 25, gage height, 7.33 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	90	324	e613	390	708	e3400	585	128	90	62	117
2	92	120	297	e829	418	e1410	2460	491	114	99	60	106
3	100	100	1750	848	515	e1090	2040	473	111	141	85	95
4	176	87	1540	653	415	e942	e5500	741	129	112	98	86
5	178	88	948	527	356	e836	e11700	878	162	94	181	79
6	133	185	644	453	323	680	e9000	788	139	91	657	77
7	113	162	473	430	314	704	6610	710	119	90	227	136
8	97	199	378	452	314	951	4670	598	112	226	134	531
9	94	292	376	427	328	e1390	3120	489	138	154	116	1030
10	88	237	517	409	316	e1230	2250	423	119	124	234	623
11	84	262	418	477	309	e1000	1720	363	96	97	148	357
12	86	402	339	472	298	e772	1440	322	99	112	113	272
13	89	321	284	421	294	e666	1350	294	100	124	95	842
14	123	264	261	394	261	e605	1170	270	96	351	88	2280
15	125	213	227	420	244	e551	991	272	93	486	83	1530
16	108	189	190	540	219	e497	851	266	88	229	79	765
17	100	173	210	548	235	e451	878	229	82	147	74	640
18	99	166	e285	529	237	e388	1050	202	78	114	69	645
19	95	275	e930	682	219	e360	960	247	74	122	64	698
20	94	300	e937	714	216	343	827	251	73	115	63	552
21	92	2550	e886	729	205	328	720	232	141	106	61	439
22	90	2000	e762	697	203	319	617	210	134	96	61	356
23	88	1120	e670	691	231	320	517	199	118	88	62	320
24	82	772	e548	507	240	320	643	196	95	78	59	298
25	78	516	e1210	425	223	320	1280	186	91	77	55	306
26	112	753	e1320	467	213	e314	1120	176	91	78	57	275
27	133	1870	e1050	522	208	e309	921	167	157	77	153	231
28	114	1370	e888	491	205	e313	843	165	139	68	279	196
29	99	723	e793	500	---	e314	839	159	102	65	309	191
30	100	459	e723	471	---	e297	767	151	90	64	171	202
31	90	---	e668	416	---	e1300	---	141	---	65	122	---
TOTAL	3248	16258	20866	16754	7949	20028	70254	10874	3308	3980	4119	14275
MEAN	105	542	673	540	284	646	2342	351	110	128	133	476
MAX	178	2550	1750	848	515	1410	11700	878	162	486	657	2280
MIN	78	87	190	394	203	297	517	141	73	64	55	77

CAL YR 1986 TOTAL 204787 MEAN 561 MAX 3870 MIN 47
WTR YR 1987 TOTAL 191913 MEAN 526 MAX 11700 MIN 55

e Estimated

01388600 POMPTON RIVER AT PACKANACK LAKE, NJ

LOCATION.--Lat 40°56'36", long 74°16'47", Morris County, Hydrologic Unit 02030103, at bridge on State Highway 504 in Packanack Lake, and 2.2 mi downstream from confluence of Pequannock and Wanaque Rivers.

DRAINAGE AREA.--361 mi^2.

PERIOD OF RECORD.--February 1979 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
03...	1030	E102	356	7.5	10.5	9.5	85	3.0	--	--
FEB 1987										
11...	1030	E315	387	7.6	2.0	15.0	109	1.5	>920	540
APR										
22...	1030	E629	238	7.8	16.5	11.1	114	3.0	1600	180
JUN										
09...	1045	E141	343	7.5	22.0	6.1	71	4.9	--	--
23...	1100	E120	357	7.6	24.5	6.4	78	4.5	170	400
JUL										
14...	1030	E358	354	7.5	26.0	5.4	68	5.0	230	170
AUG										
11...	1100	E151	--	8.0	23.5	8.0	--	5.1	490	230
SEP										
03...	1030	E97	327	7.7	19.0	7.0	76	3.8	--	--
22...	1215	E363	237	7.2	18.0	9.4	100	3.3	--	--

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
03...	100	28	7.9	27	2.2	69	22	46	0.1
FEB 1987									
11...	88	24	6.7	39	1.4	54	20	76	0.1
APR									
22...	67	18	5.3	18	1.1	44	18	32	<0.1
JUN									
09...	100	28	7.8	26	2.0	64	21	48	<0.1
23...	100	27	8.1	27	2.1	66	21	50	0.1
JUL									
14...	110	29	8.0	26	1.9	71	19	57	<0.1
AUG									
11...	81	22	6.3	21	1.7	56	18	37	0.1
SEP									
03...	97	27	7.3	25	1.8	61	21	44	0.1
22...	75	19	6.8	21	1.4	53	21	34	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 1986									
03...	7.5	180	--	--	--	--	0.470	--	1.3
FEB 1987									
11...	7.3	210	0.016	--	0.980	--	0.270	--	1.1
APR									
22...	6.1	120	0.021	--	0.580	--	0.200	--	0.72
JUN									
09...	6.8	180	0.140	0.140	1.20	1.20	0.620	0.610	1.4
23...	6.1	180	0.130	0.120	1.00	1.10	0.520	0.480	2.3
JUL									
14...	6.0	190	0.080	0.080	0.800	0.720	0.290	0.240	1.8
AUG									
11...	6.8	150	0.060	0.050	0.700	0.630	0.160	0.150	1.5
SEP									
03...	7.9	170	0.080	0.080	1.20	1.10	0.390	0.370	2.7
22...	12	150	0.080	0.070	1.10	1.00	0.410	0.400	1.5

01388600 POMPTON RIVER AT PACKANACK LAKE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
NOV 1986									
03...	--	--	0.240	--	--	--	4.2	--	--
FEB 1987									
11...	--	2.1	0.060	--	--	--	4.6	--	--
APR									
22...	--	1.3	0.070	--	--	--	4.3	--	--
JUN									
09...	1.5	2.6	0.270	0.170	0.140	0.130	--	2.8	0.5
23...	1.5	3.3	0.240	0.150	0.130	0.110	--	6.0	0.2
JUL									
14...	1.3	2.6	0.220	0.090	0.100	0.080	--	4.1	0.1
AUG									
11...	0.70	2.2	0.180	0.060	0.060	0.050	--	4.5	0.2
SEP									
03...	1.0	3.9	0.180	0.120	0.120	0.140	--	4.3	0.1
22...	0.80	2.6	0.440	0.140	0.240	0.160	--	8.2	0.5

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1986												
03...	1030	<0.5	--	--	--	20	<1	--	<10	80	<1	--
03...	1030	--	170	0.2	1.7	--	--	2	--	--	--	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1986											
03...	<10	--	--	10	--	410	--	35	--	130	--
03...	--	5	10	--	9	--	6200	--	10	--	210

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
03...	0.10	--	<1	--	<1	--	20	--	2	--	--
03...	--	0.03	--	<10	--	<1	--	80	--	48	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	<0.1	<1.0	0.3	0.2	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

01388600 POMPTON RIVER AT PACKANACK LAKE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01389005 PASSAIC RIVER BELOW POMPTON RIVER AT TWO BRIDGES, NJ

LOCATION.--Lat 40°53'47", long 074°16'10", Passaic County, Hydrologic Unit 02030103, on right bank, in Two Bridges and 400 ft downstream from the Pompton River.

DRAINAGE AREA.--734 mi^2.

PERIOD OF RECORD.--June to September 1987.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
JUN 1987												
09...	0930	E478	396	7.5	21.5	3.6	41	3.9	110	28	9.1	33
22...	0900	E425	515	7.4	25.0	3.2	39	5.8	120	31	11	44
JUL												
14...	0830	E1070	327	7.2	26.5	2.5	32	6.6	78	20	6.8	30
SEP												
03...	0845	E402	370	7.5	19.5	4.5	49	2.8	100	27	8.5	29
22...	0915	E1180	275	7.2	17.5	5.0	53	3.9	75	19	6.6	21

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
JUN 1987											
09...	3.2	67	29	54	0.1	13	210	0.16	0.16	1.80	1.70
22...	4.9	81	36	75	0.2	12	260	0.21	--	2.20	--
JUL											
14...	2.9	51	25	51	<0.1	10	180	0.19	0.19	1.70	1.70
SEP											
03...	2.9	64	29	45	0.1	11	190	0.13	0.13	2.10	2.00
22...	1.3	52	21	34	0.1	12	150	0.07	0.06	1.10	1.00

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
JUN 1987											
09...	1.00	1.10	1.9	1.7	3.7	0.580	0.380	0.360	0.310	5.0	0.7
22...	1.90	--	3.2	--	5.4	0.640	--	0.610	--	7.0	1.2
JUL											
14...	0.54	0.49	1.7	1.5	3.4	0.480	0.310	0.320	0.280	7.0	0.9
SEP											
03...	0.58	0.60	1.4	0.60	3.5	0.360	0.330	0.320	0.300	5.8	0.9
22...	0.36	0.36	2.0	--	3.1	0.400	0.160	0.230	0.170	8.3	1.2

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ
(National stream quality accounting network station)

LOCATION.--Lat 40°53'05", long 74°13'35", Passaic County, Hydrologic Unit 02030103, on left bank 0.6 mi downstream from Beattie's Dam in Little Falls, and 1.0 mi upstream from Peckman River. Water-quality monitor located 0.5 mi upstream from gaging station.

DRAINAGE AREA.--762 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1897 to current year. Monthly discharge only for September 1897, published in WSP 1302. Published as "at Paterson" September 1897 to September 1955.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 120.00 ft above National Geodetic Vertical Datum of 1929 (levels by Passaic Valley Water Commission). Prior to Jan. 8, 1933, nonrecording gage and Jan. 8, 1933, to Sept. 30, 1955, water-stage recorder, at site 3.7 mi downstream at National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. Diurnal fluctuation at medium and low flow caused by hydroelectric plant at Beattie's Dam. Flow regulated by reservoirs in Rockaway, Pequannock, Wanaque, and Ramapo River subbasins (see Passaic River basin, reservoirs in). Large diversions for municipal supply from Passaic River above Beattie's Dam, and from Rockaway, Pequannock, Ramapo, and Wanaque Rivers (see Passaic River basin, diversions and Hackensack River basin, diversions). In addition, the Commonwealth Water Co., diverts from Canoe Brook near Summit and from Passaic River (see Passaic River basin, diversions); that company and the city of East Orange also divert water for municipal supply by pumping wells. Several measurements of water temperature, other than those published, were made during the year. National Weather Service rain-gage and gage-height telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with the Passaic Valley Water Commission.

AVERAGE DISCHARGE.--90 years, 1,160 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft^3/s, Oct. 10, 1903, present site; no flow July 3-5, 1904, July 16, 23, 1905.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 6	2245	*10,300	*9.29	No other peak greater than base discharge.			

Minimum discharge, 119 ft^3/s, Sept. 29, gage height, 0.52 ft; minimum daily, 130 ft^3/s, Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	202	2550	1720	923	1330	3300	1360	361	228	227	411
2	213	225	2370	1970	892	2420	3560	1140	328	317	193	358
3	237	215	3400	2080	1050	2570	3180	1030	345	546	209	277
4	461	197	3370	1920	1170	2680	4280	1290	370	614	261	233
5	450	209	3200	1770	1180	2670	7340	1580	507	488	399	198
6	335	450	3000	1610	1120	2530	9880	1610	672	335	1090	198
7	255	528	2730	1470	1070	2360	10200	1540	637	261	976	312
8	218	561	2460	1330	1040	2330	9210	1370	471	534	742	811
9	202	801	2270	1160	1080	2430	7680	1160	353	672	577	1380
10	197	712	2170	1070	1080	2400	6260	997	334	766	1120	1220
11	181	680	1970	1190	985	2120	5050	877	307	604	1010	1000
12	174	1040	1830	1220	864	1830	4070	776	255	437	869	707
13	176	1010	1700	1130	816	1640	3420	679	242	483	646	1060
14	294	787	1510	1030	737	1470	2990	608	190	946	447	2200
15	355	630	1310	982	674	1320	2430	599	170	1530	337	2400
16	277	516	1130	1060	580	1170	1920	616	176	1280	288	1910
17	234	462	900	1170	602	1070	1780	569	e180	1120	234	1750
18	216	419	980	1160	599	969	1990	519	e170	911	207	1810
19	199	734	1740	1370	570	895	1960	587	e160	782	185	1680
20	191	992	2140	1500	548	842	1830	626	e160	681	177	1510
21	192	2910	2160	1520	522	794	1650	604	e250	567	163	1330
22	187	3220	2000	1490	523	734	1440	570	e300	434	154	1060
23	226	2840	1870	1430	580	742	1230	529	377	343	158	767
24	179	2680	1650	1230	643	716	1180	498	409	285	141	567
25	171	2420	2610	1000	642	696	1820	458	360	267	130	460
26	239	2590	2720	1050	608	674	2040	423	329	344	131	384
27	388	3470	2650	979	599	657	1920	405	516	452	368	320
28	325	3380	2590	925	593	678	1790	447	534	489	799	248
29	270	3160	2490	876	---	724	1710	454	396	451	917	204
30	239	2850	2320	884	---	694	1570	422	321	323	654	278
31	217	---	2110	933	---	1750	---	394	---	276	426	---
TOTAL	7733	40890	67900	40229	22290	45905	108680	24737	10180	17766	14235	27043
MEAN	249	1363	2190	1298	796	1481	3623	798	339	573	459	901
MAX	461	3470	3400	2080	1180	2680	10200	1610	672	1530	1120	2400
MIN	171	197	900	876	522	657	1180	394	160	228	130	198

CAL YR 1986 TOTAL 428026 MEAN 1173 MAX 6090 MIN 149
WTR YR 1987 TOTAL 427588 MEAN 1171 MAX 10200 MIN 130

e Estimated

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to November 1986 (discontinued).
WATER TEMPERATURE: Water years 1963 to 1980 (once daily), September 1980 to November 1986 (discontinued).
DISSOLVED OXYGEN: October 1970 to September 1980 (once daily).
SUSPENDED-SEDIMENT DISCHARGE: August 1963 to July 1965.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Missing continuous water-quality records are the result of malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 965 microsiemens, Feb. 4, 1985; minimum, 99 microsiemens, April 6, 1984.
WATER TEMPERATURE: Maximum, 29.5°C, July 12, 1981; minimum, 0.0°C on many days during winter months.
DISSOLVED OXYGEN: Maximum daily, 14.4 mg/L, Jan. 7, 1973; minimum daily, 1.7 mg/L, June 23, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 535 microsiemens, Feb. 18; minimum 149 microsiemens, Aug. 4.
WATER TEMPERATURE: Maximum, 28.0, July 8; minimum, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 1986											
18...	1300	415	361	7.8	7.0	5.2	12.3	102	4.8	K33	280
20...	1300	873	321	7.9	4.5	5.9	12.5	97	5.8	930	3400
DEC											
04...	1330	2040	171	7.5	5.5	5.6	12.5	99	3.9	140	820
19...	1230	1090	295	7.4	4.5	11	12.6	98	23	820	2400
JAN 1987											
13...	1300	1130	352	7.5	2.5	3.5	14.3	106	3.6	K360	310
MAR											
27...	1230	665	374	7.9	12.5	2.2	9.0	85	4.6	K130	K150
APR											
01...	1315	3390	206	7.6	10.0	30	11.0	98	3.9	--	--
29...	1230	1710	254	7.7	12.0	5.8	10.3	97	3.6	500	240
JUN											
09...	1500	346	379	7.8	22.0	--	8.0	93	4.2	--	--
22...	1200	315	489	8.6	24.5	17	7.6	92	7.4	1700	1700
JUL											
14...	1300	536	326	7.5	27.0	--	7.6	97	3.7	--	--
AUG											
10...	1300	1130	--	7.4	23.0	22	7.9	--	3.8	K700	K360
SEP											
03...	1330	272	378	8.0	20.5	--	8.7	97	3.3	--	--
23...	1130	743	293	7.8	18.0	6.7	9.1	97	3.0	230	160

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE IT-FLD (MG/L AS CO3)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV 1986											
18...	110	28	8.6	29	2.9	--	99	81	81	30	48
20...	89	23	7.6	27	3.3	--	56	46	48	28	42
DEC											
04...	50	13	4.3	13	1.7	--	--	--	--	22	23
19...	76	20	6.3	27	2.2	--	65	53	53	24	46
JAN 1987											
13...	82	21	7.1	33	1.7	--	70	57	59	24	51
MAR											
27...	97	25	8.3	33	2.7	--	79	65	67	25	58
APR											
01...	55	15	4.2	19	1.6	--	36	30	33	17	31
29...	73	19	6.3	20	1.6	--	74	61	62	19	34
JUN											
09...	110	28	8.6	32	3.2	--	--	--	--	28	51
22...	140	38	10	41	4.5	18	87	102	100	34	69
JUL											
14...	91	24	7.5	29	3.2	--	--	--	--	25	44
AUG											
10...	79	21	6.5	24	2.3	--	--	--	--	20	33
SEP											
03...	110	30	9.4	30	3.0	--	--	--	--	29	46
23...	89	23	7.6	22	2.6	--	74	61	61	21	30

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
NOV 1986										
18...	0.1	12	210	17	19	88	--	0.050	--	2.20
20...	0.1	11	170	25	59	88	--	0.040	--	1.80
DEC										
04...	0.1	8.3	100	27	149	89	--	0.010	--	0.68
19...	<0.1	11	170	33	97	94	--	0.010	--	1.10
JAN 1987										
13...	0.2	11	180	10	31	87	--	0.020	--	1.20
MAR										
27...	0.1	8.5	200	27	48	80	--	0.040	--	1.30
APR										
01...	0.1	6.3	110	79	723	87	--	0.030	--	0.61
29...	0.1	8.3	150	17	78	94	--	0.050	--	0.75
JUN										
09...	0.1	12	200	--	--	--	0.160	0.160	2.10	2.10
22...	0.2	9.9	290	49	42	98	0.210	0.210	2.30	2.30
JUL										
14...	0.1	9.9	180	--	--	--	0.180	0.180	1.90	1.80
AUG										
10...	0.6	0.7	140	--	--	--	0.090	0.080	1.40	1.30
SEP										
03...	0.2	12	200	--	--	--	0.130	0.130	2.50	2.40
23...	0.1	13	160	26	52	95	0.070	0.060	1.30	1.30

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
NOV 1986										
18...	1.10	1.00	1.9	--	0.570	0.430	--	0.390	--	--
20...	1.10	1.00	2.1	--	0.470	0.380	--	0.350	--	--
DEC										
04...	0.16	0.150	0.90	--	0.160	0.090	--	0.070	--	--
19...	0.61	0.620	1.6	--	0.260	0.170	--	0.140	--	--
JAN 1987										
13...	0.80	0.780	1.3	--	0.240	0.190	--	0.160	--	--
MAR										
27...	0.96	0.920	2.1	--	0.400	0.220	--	0.170	--	--
APR										
01...	0.29	0.280	1.2	--	0.240	0.070	--	0.050	--	--
29...	0.30	0.280	1.6	--	0.180	0.120	--	0.100	--	--
JUN										
09...	0.74	0.720	2.1	2.2	0.550	0.360	0.340	0.290	4.2	0.6
22...	0.64	0.860	4.8	1.4	1.10	0.650	0.500	0.600	7.2	2.2
JUL										
14...	0.43	0.400	3.9	1.1	0.730	0.290	0.340	0.280	6.8	0.1
AUG										
10...	0.43	0.240	1.5	1.2	0.440	0.220	0.250	0.170	--	--
SEP										
03...	0.44	0.440	1.5	1.0	0.350	0.310	0.310	0.290	5.1	0.9
23...	0.27	0.290	1.1	0.70	0.360	0.180	0.220	0.150	7.8	1.0

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
NOV 1986										
18...	1300	--	10	--	<1	--	17	--	<0.5	--
20...	1300	--	10	--	<1	--	19	--	<0.5	--
DEC										
04...	1330	390	30	<1	<1	<100	19	<10	<0.5	<1
19...	1230	--	20	--	<1	--	20	--	<0.5	--
JAN 1987										
13...	1300	--	--	--	--	--	--	--	--	--
MAR										
27...	1230	--	10	--	<1	--	22	--	<0.5	--
APR										
01...	1315	980	10	1	<1	100	12	<10	<0.5	<1
29...	1230	--	20	--	<1	--	14	--	<0.5	--
JUN										
09...	1500	--	--	--	--	--	--	--	--	--
22...	1200	--	--	--	--	--	--	--	--	--
JUL										
14...	1300	--	--	--	--	--	--	--	--	--
AUG										
10...	1300	530	20	1	1	<100	15	<10	<0.5	<1
SEP										
03...	1330	--	--	--	--	--	--	--	--	--
23...	1130	--	10	--	1	--	19	--	<0.5	--

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
NOV 1986										
18...	<1	--	1	--	<3	--	5	--	61	--
20...	1	--	<1	--	<3	--	6	--	94	--
DEC										
04...	1	<10	<1	<1	<3	10	6	880	72	<5
19...	1	--	<1	--	<3	--	6	--	48	--
JAN 1987										
13...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	<1	--	<1	--	<3	--	2	--	21	--
APR										
01...	<1	<10	<1	<1	<3	11	3	1700	36	30
29...	2	--	<1	--	<3	--	4	--	54	--
JUN										
09...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	--	--	--	--	--	--	--	--	--	--
AUG										
10...	<1	10	<1	7	<3	10	3	1100	23	6
SEP										
03...	--	--	--	--	--	--	--	--	--	--
23...	2	--	<1	--	<3	--	5	--	68	--

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
NOV 1986										
18...	<5	--	<4	--	82	--	0.1	--	<10	--
20...	7	--	4	--	73	--	<0.1	--	<10	--
DEC										
04...	<5	<10	5	50	19	0.10	<0.1	2	<10	<1
19...	<5	--	4	--	80	--	<0.1	--	<10	--
JAN 1987										
13...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	<5	--	6	--	160	--	<0.1	--	<10	--
APR										
01...	<5	<10	8	170	84	0.20	<0.1	<1	<10	2
29...	<5	--	<4	--	62	--	0.1	--	<10	--
JUN										
09...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	--	--	--	--	--	--	--	--	--	--
AUG										
10...	<5	<10	5	100	49	--	--	5	<10	4
SEP										
03...	--	--	--	--	--	--	--	--	--	--
23...	<5	--	<4	--	110	--	<0.1	--	<10	--

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 1986										
18...	2	--	<1	--	<1	--	91	<6	--	12
20...	1	--	<1	--	<1	--	83	<6	--	13
DEC										
04...	2	<1	<1	<1	<1	--	47	<6	30	9
19...	<1	--	<1	--	<1	--	72	<6	--	10
JAN 1987										
13...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	1	--	<1	--	<1	--	89	<6	--	12
APR										
01...	3	<1	<1	<1	<1	--	51	<6	30	3
29...	2	--	<1	--	<1	--	67	<6	--	18
JUN										
09...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	--	--	--	--	--	--	--	--	--	--
AUG										
10...	<1	<1	<1	<1	<1	110	80	<6	<10	7
SEP										
03...	--	--	--	--	--	--	--	--	--	--
23...	2	--	1	--	<1	--	87	<6	--	6

01390500 SADDLE RIVER AT RIDGEWOOD, NJ

LOCATION.--Lat 40°59'05", long 74°05'30", Bergen County, Hydrologic Unit 02030103, on left bank 15 ft upstream from bridge on State Highway 17 in Ridgewood and 2.8 mi upstream from Hohokus Brook.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--October 1954 to September 1974, October 1977 to current year. Operated as a maximum-stage gage water years 1975-77.

REVISED RECORDS.--WRD-NJ 1974: 1971.

GAGE.--Water-stage recorder. Datum of gage is 71.74 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records fair. The flow past this station is affected by pumpage from wells by Hackensack Water Co. and others. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--29 years (water years 1955-74, 1978-87), 35.3 ft^3/s, 22.19 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft^3/s, Nov. 8, 1977, gage height, 12.25 ft; minimum daily, 0.2 ft^3/s, Sept. 17, 18, 1966.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of July 23, 1945, reached a discharge of 6,400 ft^3/s, at site 1.6 mi upstream, drainage area, 19.1 mi^2, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0430	837	5.22	Apr. 4	1915	*1,420	*6.64
Nov. 26	2315	689	4.80	July 14	1930	452	4.05
Dec. 3	0415	421	3.93	Aug. 5	1800	558	4.40
Mar. 1	1545	452	4.05	Sept. 9	0100	381	3.79
Mar. 31	1745	706	4.86	Sept. 13	1730	539	4.34

Minimum daily discharge, 3.9 ft^3/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	8.3	21	23	31	205	96	36	11	9.6	e6.0	13
2	7.3	8.7	30	122	32	113	53	35	12	14	e5.8	9.4
3	11	8.4	207	56	41	62	44	41	11	21	9.5	8.0
4	35	8.6	50	33	45	49	656	84	15	11	15	7.3
5	12	9.7	36	26	36	42	176	55	22	9.7	140	6.4
6	9.8	41	30	23	30	40	200	40	12	8.9	170	6.5
7	8.6	15	27	25	29	44	156	37	9.7	9.4	29	28
8	8.1	52	26	23	31	45	102	32	11	34	18	73
9	7.8	43	39	21	34	41	87	30	11	18	25	113
10	7.3	26	45	23	27	35	78	28	11	12	78	20
11	7.3	81	30	46	25	32	71	26	8.5	9.8	19	14
12	7.5	68	33	32	25	33	66	25	8.1	16	14	12
13	7.2	34	27	26	24	35	75	23	10	16	11	211
14	20	27	21	25	22	34	60	22	8.1	101	9.0	66
15	12	27	21	39	19	31	55	29	7.8	49	9.0	27
16	8.4	25	20	53	22	29	54	23	6.8	15	8.4	22
17	8.0	23	20	26	22	28	81	21	6.1	12	7.7	49
18	8.2	24	53	43	19	28	84	20	6.2	10	7.2	56
19	7.5	84	88	66	18	27	56	30	5.7	9.3	6.1	45
20	7.0	70	39	39	18	27	49	21	6.3	9.4	5.6	28
21	6.6	317	30	34	18	27	46	20	45	10	5.1	23
22	6.7	45	25	44	19	26	43	19	16	7.9	5.2	21
23	6.8	29	24	76	24	25	40	18	13	7.3	5.5	21
24	7.1	27	24	34	22	24	56	18	10	6.9	4.2	21
25	7.1	21	120	36	20	24	93	17	8.2	6.4	4.9	24
26	13	177	43	35	19	25	51	16	7.6	6.6	3.9	18
27	17	126	32	34	19	25	43	16	49	6.5	53	16
28	10	40	29	32	19	44	59	16	29	6.1	69	15
29	9.2	30	27	30	---	29	49	14	13	e6.0	39	15
30	9.1	25	25	35	---	26	40	13	11	e6.4	15	18
31	8.2	---	24	41	---	369	---	12	---	e6.2	11	---
TOTAL	308.3	1520.7	1266	1201	710	1624	2819	837	401.1	471.4	809.1	1006.6
MEAN	9.95	50.7	40.8	38.7	25.4	52.4	94.0	27.0	13.4	15.2	26.1	33.6
MAX	35	317	207	122	45	369	656	84	49	101	170	211
MIN	6.6	8.3	20	21	18	24	40	12	5.7	6.0	3.9	6.4
CFSM	.46	2.35	1.89	1.79	1.17	2.43	4.35	1.25	.62	.70	1.21	1.55
IN.	.53	2.62	2.18	2.07	1.22	2.80	4.85	1.44	.69	.81	1.39	1.73

CAL YR 1986 TOTAL 12349.8 MEAN 33.8 MAX 423 MIN 6.2 CFSM 1.57 IN. 21.26
WTR YR 1987 TOTAL 12974.2 MEAN 35.5 MAX 656 MIN 3.9 CFSM 1.65 IN. 22.34

e Estimated

01391000 HOHOKUS BROOK AT HO-HO-KUS, NJ

LOCATION.--Lat 40°59'52", long 74°06'48", Bergen County, Hydrologic Unit 02030103, on left bank 500 ft upstream from bridge on Maple Avenue in Ho-Ho-Kus, and 3.5 mi upstream from mouth.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--April 1954 to September 1973, October 1977 to current year. Operated as a crest-stage partial-record station, water years 1974-77.

REVISED RECORDS.--WDR NJ-77-1: 1955(M), 1968(M), 1976(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 120.09 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good below 300 ft^3/s and fair above. Some regulation and diurnal fluctuation at low and medium flows caused by unknown sources, possibly sewage treatment plant upstream of gage. Several measurements of water temperature were made during the year. Gage height telemeter at station.

AVERAGE DISCHARGE.--29 years (water years 1955-73, 1978-87), 33.5 ft^3/s, 27.74 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft^3/s, Nov. 8, 1977, gage height, 7.06 ft, from rating curve extended above 750 ft^3/s by computation of peak-flow over dam; minimum, 1.9 ft^3/s, Aug. 2, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	unknown	e700	unknown	Apr. 4	1800	*1,050	*3.61
Nov. 26	unknown	e600	unknown	Sept. 13	1700	530	2.89
Mar. 31	1430	471	2.79				

Minimum discharge, 8.6 ft^3/s, Aug. 26, gage height, 1.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	e31	33	39	180	105	40	22	19	15	23
2	21	16	e49	104	41	118	58	38	21	27	14	19
3	29	16	209	70	48	69	47	46	21	36	21	16
4	45	15	65	49	50	56	e550	79	26	22	18	16
5	23	18	46	42	44	50	e175	56	36	18	69	16
6	19	48	40	38	41	47	e144	46	24	18	135	15
7	18	24	37	38	41	51	143	42	21	20	34	39
8	18	44	35	38	42	54	92	39	22	51	24	85
9	18	35	50	35	44	49	76	37	24	38	30	88
10	17	23	56	38	40	40	68	35	24	24	73	33
11	17	52	42	53	38	37	61	34	20	20	31	26
12	16	44	46	43	38	37	57	33	21	22	23	24
13	18	25	38	38	37	40	62	31	21	19	21	173
14	35	20	32	36	35	40	54	31	20	88	20	82
15	23	20	31	42	30	38	50	38	19	74	19	39
16	19	19	32	43	34	36	49	33	18	27	18	32
17	18	19	31	37	39	34	73	29	17	22	18	62
18	18	19	69	49	29	33	76	29	17	20	19	65
19	17	50	96	64	24	33	53	39	17	18	17	50
20	17	63	50	49	22	33	49	31	17	20	17	34
21	17	e227	40	43	23	32	46	29	60	21	16	30
22	17	e64	36	43	24	32	42	29	30	18	15	27
23	17	e39	34	46	36	31	40	29	23	18	15	25
24	17	e35	35	38	35	29	52	27	20	17	15	27
25	17	e31	147	36	33	29	84	26	18	16	15	29
26	30	e122	60	36	32	29	49	26	18	16	13	23
27	29	e139	45	35	32	29	42	26	64	17	65	22
28	20	e57	40	35	33	40	55	27	43	16	86	22
29	18	e38	38	34	---	34	49	26	23	15	58	22
30	18	e34	37	34	---	34	43	24	20	15	26	26
31	17	---	35	44	---	246	---	22	---	16	21	---
TOTAL	642	1373	1632	1363	1004	1640	2544	1077	747	788	981	1190
MEAN	20.7	45.8	52.6	44.0	35.9	52.9	84.8	34.7	24.9	25.4	31.6	39.7
MAX	45	227	209	104	50	246	550	79	64	88	135	173
MIN	16	15	31	33	22	29	40	22	17	15	13	15
CFSM	1.26	2.79	3.21	2.68	2.19	3.23	5.17	2.12	1.52	1.55	1.93	2.42
IN.	1.46	3.11	3.70	3.09	2.28	3.72	5.77	2.44	1.69	1.79	2.23	2.70

CAL YR 1986 TOTAL 14179 MEAN 38.8 MAX 266 MIN 15 CFSM 2.37 IN. 32.15
WTR YR 1987 TOTAL 14981 MEAN 41.0 MAX 550 MIN 13 CFSM 2.50 IN. 33.97

e Estimated

01391200 SADDLE RIVER AT FAIR LAWN, NJ

LOCATION.--Lat 40°56'30", long 74°05'36", Bergen County, Hydrologic Unit 02030103, at bridge on Century Road in Fair Lawn, and 0.8 mi downstream from Hohokus Brook.

DRAINAGE AREA.--45.2 mi^2.

PERIOD OF RECORD.--February 1979 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	0950	E32	585	7.7	12.0	8.6	79	3.9	490	330
FEB 1987										
17...	1100	E102	618	7.8	3.5	14.0	106	3.0	80	20
APR										
08...	0900	E362	365	7.7	9.0	10.0	87	3.8	1300	2300
JUN										
09...	1230	E50	578	7.8	20.0	6.7	74	5.8	2400	5400
JUL										
14...	1100	E339	538	7.9	24.0	6.0	72	2.6	1100	2300
AUG										
12...	1130	E47	549	7.9	21.0	7.7	86	7.2	4900	500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	180	48	14	42	5.0	112	39	67	0.1
FEB 1987									
17...	180	49	13	49	2.8	133	32	92	0.2
APR									
08...	110	31	7.2	29	2.0	70	23	52	<0.1
JUN									
09...	180	48	14	42	4.4	122	34	69	0.2
JUL									
14...	180	47	14	38	4.4	114	32	66	0.2
AUG									
12...	160	41	13	42	4.7	104	34	66	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	13	300	2.05	8.07	0.45	0.99	9.1	1.53	4.8
FEB 1987									
17...	10	330	0.155	1.92	2.28	3.1	5.0	0.509	4.1
APR									
08...	9.5	200	E0.017	1.44	0.57	1.2	2.6	0.219	7.1
JUN									
09...	14	300	0.375	3.74	1.17	1.7	5.4	1.08	5.6
JUL									
14...	10	280	0.400	5.46	0.38	1.2	6.7	1.08	6.2
AUG									
12...	12	280	0.024	5.72	0.30	0.93	6.7	1.14	7.0

01391200 SADDLE RIVER AT FAIR LAWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 08...	0950	<0.5	10	2	<10	190	<1	<10	23

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 08...	360	5	80	<0.10	4	<1	10	3

01391500 SADDLE RIVER AT LODI, NJ

LOCATION.--Lat 40°53'25", long 74°04'51", Bergen County, Hydrologic Unit 02030103, on left bank 560 ft upstream from bridge on Outwater Lane in Lodi and 3.2 mi upstream from mouth. Water-quality samples collected at bridge on Outwater Lane at high flows.
DRAINAGE AREA.--54.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1923 to current year.
REVISED RECORDS.--WSP 781: Drainage area. WSP 1031: 1940(M). WSP 1552: 1929(M), 1936(M), 1938. WRD-NJ 1969: 1967. WRD-NJ 1970: 1968, 1969.
GAGE.--Water-stage recorder. Concrete control since Nov. 2, 1938. Datum of gage is 25.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1938, at site 560 ft downstream at datum 2.54 ft lower.
REMARKS.--Records fair. Occasional regulation at low flow. Diversion above station at Arcola by Hackensack Water Co., for municipal supply (records given herein). The flow past this station is affected by pumpage from wells by Hackensack Water Co. and others. Several measurements of water temperature, other then those published, were made during the year. National Weather Service gage-height telemeter at station.
AVERAGE DISCHARGE.--64 years, 101 ft^3/s, 25.12 in./yr, adjusted for diversion since 1966.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft^3/s, Nov. 9, 1977, gage height, 12.36 ft, from high-water mark in gage house; minimum, 1.0 ft^3/s, May 25, 1938, gage height, 1.03 ft, site and datum then in use; minimum daily, 6.0 ft^3/s, Aug. 23, 1934.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0600	1,390	4.96	Mar. 31	1745	1,280	4.77
Nov. 26	2330	1,490	5.14	Apr. 4	2315	*2,320	*6.94
Dec. 3	unknown	2,310	6.91				

Minimum discharge, 29 ft^3/s, Aug. 2, 26, gage height 1.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	39	e74	91	109	585	293	116	61	48	35	73
2	41	39	e130	399	114	380	152	112	61	63	34	41
3	70	38	e930	218	136	194	126	123	62	90	48	41
4	111	38	e160	144	143	156	1300	239	95	54	43	42
5	47	49	116	120	121	138	693	169	107	48	227	43
6	44	113	101	112	110	129	424	131	69	45	482	41
7	43	50	94	113	111	134	386	121	62	48	93	151
8	41	111	90	111	113	143	265	111	65	158	60	234
9	41	81	131	104	130	133	223	106	69	124	95	347
10	39	46	151	110	108	114	203	101	65	56	352	80
11	39	115	110	161	101	105	186	97	56	58	71	67
12	39	113	120	128	101	108	177	94	56	74	47	70
13	e41	55	101	111	99	113	199	89	71	91	48	509
14	e94	44	87	105	91	110	168	87	61	272	48	284
15	e58	43	84	114	85	106	157	109	53	278	47	113
16	e44	41	84	120	81	101	153	96	49	72	43	89
17	e42	39	82	103	84	97	210	85	46	49	42	186
18	e42	42	186	140	84	94	240	90	45	44	41	257
19	e40	136	265	188	81	93	164	118	44	46	41	165
20	38	97	139	143	80	93	149	89	44	54	38	103
21	38	689	110	123	81	92	142	83	130	51	37	89
22	37	133	97	107	82	90	135	82	77	46	36	82
23	38	86	91	131	106	87	127	80	56	44	36	76
24	38	81	92	104	96	85	155	78	50	44	34	79
25	37	69	395	95	86	82	260	75	46	41	34	85
26	73	346	159	100	83	84	151	73	44	43	34	70
27	62	486	120	93	84	82	129	72	217	44	196	65
28	44	124	108	91	85	117	163	75	107	39	249	63
29	40	94	103	90	---	95	144	72	69	37	150	62
30	38	80	100	108	---	88	125	67	59	41	59	70
31	36	---	95	134	---	835	---	62	---	38	46	---
TOTAL	1476	3517	4705	4011	2785	4863	7399	3102	2096	2240	2846	3677
MEAN	47.6	117	152	129	99.5	157	247	100	69.9	72.3	91.8	123
MAX	111	689	930	399	143	835	1300	239	217	278	482	509
MIN	36	38	74	90	80	82	125	62	44	37	34	41
(†)	.02	9.4	1.2	0	0	0	0	0	1.7	3.8	6.7	4.4
MEAN‡	47.6	126	153	129	99.5	157	247	100	71.6	76.1	98.5	127
CFSM‡	0.87	2.31	2.80	2.36	1.82	2.88	4.52	1.83	1.31	1.39	1.80	2.33
IN.‡	1.01	2.57	3.23	2.72	1.90	3.32	5.05	2.11	1.46	1.61	2.08	2.59

CAL YR 1986 TOTAL 38196 MEAN 105 MAX 1200 MIN 35 MEAN‡ 112 CFSM‡ 2.05 IN.‡ 27.91
WTR YR 1987 TOTAL 42717 MEAN 117 MAX 1300 MIN 34 MEAN‡ 119 CFSM‡ 2.18 IN.‡ 29.64

e Estimated

† Diversion, equivalent in cubic feet per second, above station by Hackensack Water Co. Records of diversion furnished by Hackensack Water Co.
‡ Adjusted for diversion.

01391500 SADDLE RIVER AT LODI, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

COOPERATION.--Analysis of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by t New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	1200	E41	607	7.7	12.0	7.6	70	3.3	3300	600
FEB 1987										
18...	1100	81	641	7.8	4.0	13.0	100	2.4	130	33
APR										
08...	1110	130	383	7.6	10.0	9.4	84	3.6	330	330
JUN										
09...	1030	53	603	7.6	20.0	4.4	49	4.9	9200	1300
JUL										
14...	0915	47	583	7.7	24.5	3.4	41	4.8	4900	4900
AUG										
12...	1000	125	573	7.8	20.0	5.5	60	3.9	4900	800

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	190	51	15	45	5.1	123	42	74	0.1
FEB 1987									
18...	190	53	13	49	3.2	140	38	90	0.1
APR									
08...	120	34	7.8	30	2.1	77	25	54	<0.1
JUN									
09...	190	52	14	42	4.2	129	36	73	0.1
JUL									
14...	190	52	15	42	4.4	123	32	69	0.1
AUG									
12...	170	45	13	40	4.3	114	35	72	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	14	320	0.350	6.87	0.44	1.3	8.2	1.48	5.2
FEB 1987									
18...	11	340	0.180	2.14	1.90	3.0	5.1	0.500	4.0
APR									
08...	9.9	210	E0.013	1.60	0.57	1.2	2.8	0.206	7.0
JUN									
09...	14	310	0.345	3.34	1.05	1.2	4.5	1.08	5.0
JUL									
14...	13	300	0.370	4.80	0.77	1.7	6.6	0.970	4.5
AUG									
12...	12	290	0.021	4.71	0.42	1.5	6.2	0.860	7.7

01391500 SADDLE RIVER AT LODI, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 08...	1200	--	0.5	11	--	--	2	--	--	--	<1
JUN 1987 09...	1030	<0.5	--	--	<10	1	--	<10	110	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 08...	--	5	<10	--	20	--	2300	--	50	--	72
JUN 1987 09...	<10	--	--	9	--	430	--	6	--	190	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 08...	--	0.04	--	<10	--	<1	--	70	--	<110	<1.0
JUN 1987 09...	<0.10	--	6	--	<1	--	10	--	3	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 08...	<0.1	57	5.0	40	14	0.1	1.3	<0.1	<0.1	<0.1	<0.1
JUN 1987 09...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 08...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<0.1
JUN 1987 09...	--	--	--	--	--	--	--	--	--	--

01392210 THIRD RIVER AT PASSAIC, NJ

LOCATION.--Lat 40°49'47", long 74°08'32", Passaic County, Hydrologic Unit 02030103, on right bank 400 ft upstream from bridge on State Highway 3, 0.8 mi south of Passaic, 1.2 mi upstream from Passaic River.

DRAINAGE AREA.--11.8 mi^2.

PERIOD OF RECORD.--May 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is 22.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation from ponds upstream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 21.6 ft^3/s, 24.86 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, Nov. 8, 1977, gage height, 8.25 ft, from rating curve extended above 300 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 0.84 ft^3/s, July 3, 1981, gage height, 1.39 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0030	621	4.39	Dec. 3	0130	587	4.31
Nov. 26	2030	*784	*4.79	July 14	1715	760	4.73

Minimum daily discharge, 4.7 ft^3/s, July 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	5.5	13	14	e15	187	29	12	7.8	30	5.7	18
2	7.5	6.8	48	105	e18	46	18	13	10	22	5.6	7.7
3	33	6.6	155	38	e23	26	16	16	8.3	23	9.0	7.4
4	27	6.8	25	22	e22	21	221	49	33	6.1	6.3	6.9
5	11	16	21	18	e17	18	45	27	33	5.1	31	6.6
6	7.4	42	17	17	e16	17	62	16	9.4	4.7	79	6.6
7	6.5	7.1	16	17	e17	17	38	14	7.5	5.6	9.4	64
8	7.4	57	15	15	e18	17	24	13	7.4	53	12	89
9	6.6	12	47	15	e20	15	21	12	7.5	13	26	36
10	6.4	8.4	26	23	e16	13	18	12	6.9	7.0	113	12
11	6.0	57	20	27	e15	13	17	12	6.6	8.6	11	11
12	6.0	16	25	17	e16	14	16	12	6.6	7.7	9.1	12
13	7.7	9.0	16	16	e16	15	22	12	6.9	4.9	8.3	130
14	28	8.1	14	14	e14	14	16	12	6.5	187	7.8	20
15	7.6	7.8	14	e17	e13	12	14	13	6.3	23	7.2	13
16	6.7	7.9	14	e18	e14	12	14	13	6.2	12	6.7	12
17	5.9	8.9	14	e13	e15	12	34	11	5.6	9.2	5.9	35
18	5.7	14	73	e23	e12	11	27	12	5.2	8.2	5.5	53
19	5.9	62	32	e30	e11	11	15	22	5.0	39	5.7	17
20	5.8	69	18	e18	e11	12	14	16	4.8	14	5.9	13
21	5.8	143	15	e18	e10	11	14	14	11	9.2	5.2	12
22	6.3	17	15	e18	e11	11	13	13	7.5	8.1	5.6	13
23	6.1	14	14	e23	e17	10	12	13	7.7	7.3	5.3	12
24	5.3	18	17	e13	e14	9.6	17	12	6.4	7.5	5.5	14
25	5.5	13	118	e15	e13	10	50	12	6.0	13	5.0	13
26	35	180	22	e15	e13	11	15	13	5.5	14	5.1	9.6
27	10	60	19	e14	e14	9.4	14	13	22	8.4	57	9.2
28	6.7	21	17	e14	e14	20	23	13	16	7.0	68	8.9
29	6.3	17	16	e14	---	9.9	15	11	8.9	6.6	16	8.9
30	5.8	15	15	e16	---	13	13	9.7	6.7	6.7	9.0	11
31	5.4	---	14	e21	---	173	---	8.6	---	6.3	7.7	---
TOTAL	303.8	925.9	905	658	425	790.9	867	451.3	288.2	577.2	559.5	681.8
MEAN	9.80	30.9	29.2	21.2	15.2	25.5	28.9	14.6	9.61	18.6	18.0	22.7
MAX	35	180	155	105	23	187	221	49	33	187	113	130
MIN	5.3	5.5	13	13	10	9.4	12	8.6	4.8	4.7	5.0	6.6
CFSM	.83	2.62	2.47	1.80	1.29	2.16	2.45	1.23	.81	1.58	1.53	1.93
IN.	.96	2.92	2.85	2.07	1.34	2.49	2.73	1.42	.91	1.82	1.76	2.15

CAL YR 1986 TOTAL 7679.4 MEAN 21.0 MAX 254 MIN 4.1 CFSM 1.78 IN. 24.20
WTR YR 1987 TOTAL 7433.6 MEAN 20.4 MAX 221 MIN 4.7 CFSM 1.73 IN. 23.43

e Estimated

RESERVOIRS IN PASSAIC RIVER BASIN

01379990 SPLITROCK RESERVOIR.--Lat 40°57'40", long 74°27'45", Morris County, Hydrologic Unit 02030103, at dam on Beaver Brook, 2 mi northeast of Hibernia. DRAINAGE AREA, 5.50 mi^2. PERIOD OF RECORD, September 1925 to September 1931, December 1948 to September 1950, October 1953 to current year. Monthend contents only 1925-31, 1948-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by a concrete gravity dam with earth embankment; present dam constructed 1946-48 and sluice gate first closed Dec. 22, 1948. Prior to 1946, reservoir was formed by earthfill dam with crest about 20 ft lower. Capacity of spillway level, 3,310,000,000 gal, elevation, 835 ft. Flow is regulated by two 30-inch sluice gates. Flow is released for diversion for municipal supply of Jersey City.
COOPERATION.--Records provided by Jersey City, Bureau of Water.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,652,500,000 gal, Apr. 5, 1973, elevation, 836.75 ft; minimum, 1,522,800,000 gal, Jan. 4, 1954, elevation, 824.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,474,000,000 gal, Apr. 5, elevation, 835.85 ft; minimum, 3,256,000,000 gal, July 7, elevation, 834.75 ft.

01380900 BOONTON RESERVOIR.--Lat 40°53', long 74°24', Morris County, Hydrologic Unit 02030103, at dam on Rockaway River at Boonton. DRAINAGE AREA, 119 mi^2. PERIOD OF RECORD, April 1904 to September 1950, October 1953 to current year. Monthend contents only 1904-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. REVISED RECORDS.--WDR NJ-85-1: 1984. GAGE, hook gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by a cyclopean masonry dam with earth wings; dam completed and storage began in 1904. Total capacity at spillway level, 7,620,000,000 gal elevation, 305.25 ft of which 7,366,000,000 gal is usable contents above elevation 259.75 ft, sill of lowest outlet gate. Flow regulated by flashboards, 3 outlets in gatehouse at head of conduit and by two 48-inch pipes (bottom of sluice pipes at elevation 205 ft). Water is diverted from reservoir for municipal supply of Jersey City.
COOPERATION.--Records provided by Jersey City, Bureau of Water.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,545,600,000 gal, May 31, 1984, elevation, 308.81 ft; minimum, 1,445,000,000 gal, Jan. 31, 1981, elevation 274.71 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,395,000,000 gal, Sept. 15, elevation, 308.23 ft; minimum, 7,127,000,000 gal, Nov. 5, elevation, 303.35 ft.

01382100 CANISTEAR RESERVOIR.--Lat 41°06'30", long 74°29'30", Sussex County, Hydrologic Unit 02030103, at dam on Pacock Brook, 1.8 mi northeast of Stockholm. DRAINAGE AREA, 5.6 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earth-embankment type dam, completed about 1896. Capacity at spillway level, 2,407,000,000 gal, elevation, 1,086.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply for City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382200 OAK RIDGE RESERVOIR.--Lat 41°02'30", long 74°30'10", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 0.9 mi southwest of Oak Ridge. DRAINAGE AREA, 27.3 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1924-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam with concrete-core wall and ogee overflow section; dam constructed between 1880-92; dam raised 10 ft during 1917-19. Capacity at spillway level, 3,895,000,000 gal, elevation, 846.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382300 CLINTON RESERVOIR.--Lat 41°04'30", long 74°27'00", Passaic County, Hydrologic Unit 02030103, at dam on Clinton Brook, 2.0 mi north of Newfoundland. DRAINAGE AREA, 10.5 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam constructed between 1889-92. Capacity at spillway level, 3,518,000,000 gal, elevation, 992.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382380 CHARLOTTEBURG RESERVOIR.--Lat 41°01'34", long 74°25'30", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 1.1 mi upstream from Macopin River, and 1.5 mi southeast of Newfoundland, NJ. DRAINAGE AREA, 56.2 mi^2. PERIOD OF RECORD, May 1961 to current year. REVISED RECORDS.--WRD NJ-74: Station number. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by concrete-masonry dam and earth embankment, with concrete spillway at elevation 738.00 ft; storage began May 19, 1961. Spillway equipped with Bascule gate 5 ft high. Capacity, 2,964,000,000 gal, elevation, 743.00 ft, top of Bascule gate. No dead storage. Outflow is controlled by sluice and automatic Bascule gates. Water diverted from reservoir since May 21, 1961, for municipal supply of City of Newark.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

01382400 ECHO LAKE.--Lat 41°03'00", long 74°24'30", Passaic County, Hydrologic Unit 02030103, at Echo Lake Dam on Macopin River, 1.6 mi north of Charlotteburg, and 1.9 mi upstream from mouth. DRAINAGE AREA, 4.35 mi^2. PERIOD OF RECORD, October 1927 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Lake is formed by earth-embankment type dam completed about 1925. Capacity at spillway level, 1,583,000,000 gal, elevation, 893.0 ft, with provision for additional storage of 180,000,000 gal at elevation 894.9 ft with flashboards. Usable contents, 1,045,000,000 gal above elevation 880.0 ft. Lake used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and water diverted to Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow to Macopin River controlled by operation of gates in gatehouse at dam and water released through pipe and canal to Charlotteburg Reservoir.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01383000 GREENWOOD LAKE.--Lat 41°09'36", long 74°20'03", Passaic County, Hydrologic Unit 02030103, in gatehouse near right end of Greenwood Lake Dam on Wanaque River at Awosting. DRAINAGE AREA, 27.1 mi^2. PERIOD OF RECORD, June 1898 to November 1903, June 1907 to current year (gage heights only prior to October 1953). GAGE, water-stage recorder. Datum of gage is 608.86 ft National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Oct. 1, 1931, staff gage on former railroad bridge at site 100 ft upstream at datum 89.75 ft lower.
REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed about 1837 and reconstruction completed in 1928 with crest of spillway 0.25 ft lower. Usable capacity, 6,860,000,000 gal between gage heights -4.00 ft, sill of gate, and 10.00 ft, crest of spillway. Dead storage, 7,140,000,000 gal. Outflow mostly regulated by two gates, 3.5 by 5.0 ft. Records given herein represent usable capacity. Lake used for recreation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,528,000,000 gal, Oct. 9-14, 1903, gage height, 14.25 ft, present datum; minimum, 3,160,000,000 gal, several days in November 1900, gage height, 3.50 ft, present datum.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,845,000,000 gal, Apr. 5, gage height, 11.58 ft; minimum, 6,028,000,000 gal, Nov. 1, gage height, 8.63 ft.

01386990 WANAQUE RESERVOIR.--Lat 41°02'33", long 74°17'36", Passaic County, Hydrologic Unit 02030103, at Raymond Dam on Wanaque River at Wanaque. DRAINAGE AREA, 90.4 mi^2. PERIOD OF RECORD, February 1928 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by North Jersey District Water Supply Commission).
REMARKS.--Reservoir is formed by earthfill with concrete-core wall main dam and seven secondary dams; dams completed in 1927 and storage began in March 1928. Total capacity of spillway level, 28,010,000,000 gal, revised, elevation, 300.3 ft. Capacity available by gravity at spillway level, 27,030,000,000 gal, revised. Outflow mostly controlled by sluice gates in intake conduits in gage house. Water is diverted from reservoir for municipal supply. Diversion to reservoir from Post Brook and Ramapo River (see Passaic River basin, diversions).
COOPERATION.--Records provided by North Jersey District Water Supply Commission.
REVISED RECORDS.--WDR NJ-85-1: 1984 (M).
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,930,000,000 gal, Apr. 6, 1984, elevation, 304.07 ft; minimum, 5,110,000,000 gal, Dec. 26, 1964, elevation, 256.06 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,740,000,000 gal, Apr. 5, elevation, 303.84 ft; minimum, 23,000,000,000 gal, Oct. 19, elevation, 293.30 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01379990 SPLITROCK RESERVOIR			01380900 BOONTON RESERVOIR			01382100 CANISTEAR RESERVOIR		
Sept. 30...	835.05	3,316	-	305.94	7,799	-	1,085.90	2,396	-
Oct. 31...	835.05	3,316	0	305.94	7,799	0	1,083.00	2,100	-14.8
Nov. 30...	834.95	3,296	-1.02	303.92	7,272	-27.2	1,082.20	2,020	-4.1
Dec. 31...	835.30	3,365	+3.46	305.69	7,724	+22.6	1,086.00	2,407	+19.3
CAL YR 1986			+.021			+0.4			0
Jan. 31...	835.20	3,346	-1.0	305.65	7,724	0	1,086.00	2,407	0
Feb. 28...	835.10	3,326	-1.1	305.37	7,651	-4.0	1,086.01	2,407	0
Mar. 31...	835.05	3,316	-0.5	305.44	7,669	+0.9	1,086.20	2,427	+1.0
Apr. 30...	835.45	3,395	+4.1	306.19	7,864	+10.1	1,086.00	2,407	-1.0
May 31...	835.15	2,940	-22.7	307.52	8,210	+17.3	1,086.00	2,407	0
June 30...	835.00	3,306	+18.9	307.37	8,171	-2.0	1,085.70	2,376	-1.6
July 31...	834.80	3,266	-2.0	304.18	7,342	-41.4	1,085.70	2,376	0
Aug. 31...	834.95	3,296	+1.5	305.02	7,560	+10.9	1,085.50	2,355	-1.1
Sept. 30...	835.00	3,306	+0.5	306.25	7,880	+16.5	1,085.60	2,407	+2.7
WTR YR 1987			0			+.3			0

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01382200 OAK RIDGE RESERVOIR			01382300 CLINTON RESERVOIR			01382380 CHARLOTTEBURG RESERVOIR		
Sept. 30...	823.00	1,170	-	980.00	2,058	-	732.95	1,921	-
Oct. 31...	827.81	1,371	+10.0	971.40	1,224	-41.6	733.75	1,993	+3.6
Nov. 30...	827.90	1,623	+13.0	972.80	1,344	+6.2	733.50	1,971	-1.2
Dec. 31...	839.50	3,006	+69.0	980.40	2,101	+37.8	731.55	1,798	-8.6
CAL YR 1986			-3.8			-6.1			-3.5
Jan. 31...	840.30	3,111	+5.26	980.30	2,444	+17.1	730.40	1,700	-4.9
Feb. 28...	833.40	2,234	-48.5	985.20	2,632	+10.4	729.00	1,582	-6.5
Mar. 31...	844.70	3,711	+73.7	990.10	3,275	+32.1	731.55	1,798	+10.8
Apr. 30...	846.10	3,909	+10.2	992.30	3,556	+14.5	743.15	2,983	+61.1
May 31...	846.00	3,895	-0.7	992.20	3,544	-0.6	736.75	2,279	-35.2
June 30...	844.30	3,655	-12.4	989.30	3,172	-19.1	731.95	1,833	-23.0
July 31...	838.40	2,862	-39.6	986.30	2,768	-20.2	731.65	1,807	-1.3
Aug. 31...	825.20	1,364	-74.8	986.40	2,782	+0.7	731.90	1,828	+1.1
Sept. 30...	839.00	2,940	+81.3	992.30	3,556	+40.0	735.25	2,134	+0.3
WTR YR 1987			+7.5			+6.4			+0.9

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01382400 ECHO LAKE			01383000 GREENWOOD LAKE			01386990 WANAQUE RESERVOIR		
Sept. 30...	892.90	1,574	-	8.99	6,244	-	289.71	20,640	-
Oct. 31...	892.90	1,574	0	8.97	6,232	-49.0	286.15	18,430	-266
Nov. 30...	893.20	1,601	+1.4	8.65	6,040	-9.9	289.72	20,640	+114
Dec. 31...	893.10	1,592	-0.5	10.43	7,127	+54.2	299.90	27,700	+352
CAL YR 1986			0			+0.7			-6.9
Jan. 31...	893.10	1,592	0	e10.41	7,114	-0.7	300.20	27,930	+11.5
Feb. 28...	890.90	1,396	-10.8	e10.29	7,040	-4.1	298.63	26,750	-65.2
Mar. 31...	891.70	1,467	+3.5	10.36	7,083	+2.2	302.09	29,390	+132
Apr. 30...	893.10	1,592	+6.5	10.70	7,294	+10.9	302.55	29,750	+18.6
May 31...	893.00	1,583	-0.5	10.30	7,046	-12.4	300.69	28,310	-71.9
June 30...	892.70	1,555	-1.4	10.07	6,903	-7.4	295.85	24,790	-182
July 31...	892.90	1,574	+0.9	9.62	6,628	-13.7	291.61	21,880	-145
Aug. 31...	893.10	1,592	+0.9	9.43	6,512	-5.8	286.82	11,820	-153
Sept. 30...	893.00	1,583	-0.5	9.59	6,610	+5.1	293.98	23,470	+240
WTR YR 1987			0			+1.6			+12.0

e Gage height estimated.
* Elevation at 0900.
** Gage height at 2400.
† Elevation at 0800 on first day of following month.

DIVERSIONS WITHIN PASSAIC RIVER BASIN

01368720 North Jersey District Water Supply Commission diverts water from Upper Greenwood Lake (Hudson River basin) near Moe, NJ to the Green Brook, a tributary of Greenwood Lake, for municipal supply. Consult North Jersey District Water Supply Commission for data available.

01379510 Commonwealth Water Company diverts water from Passaic River, 1.2 mi upstream from Canoe Brook for municipal supply. These figures also include water diverted from the Passaic River by the Bernards Division of the Commonwealth Water Company. Records provided by Commonwealth Water Company.

01379530 Commonwealth Water Company diverts water from Canoe Brook near Summit, 0.5 mi from mouth, for municipal supply. Records provided by Commonwealth Water Company.

01380800 Jersey City diverts water from Boonton Reservoir on Rockaway River at Boonton for municipal supply. Records provided by Jersey City, Bureau of Water.

01382370 City of Newark diverts water from Charlotteburg Reservoir on Pequannock River since May 21, 1961 for municipal supply. Prior to May 21, 1961 water was diverted from reservoir formed by Macopin intake dam on Pequannock River (former diversion 01382490). Records provided by City of Newark, Division of Water Supply.
REVISED RECORDS.--WDR NJ-82-1: Station number.

01386980 North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir on Wanaque River. Records provided by North Jersey District Water Supply Commission.

01387020 North Jersey District Water Supply Commission diverts water from Post Brook near Wanaque into Wanaque Reservoir for municipal supply. Records not available.

01387990 North Jersey District Water Supply Commission diverts water from Ramapo River by pumping from Pompton Lakes into Wanaque Reservoir. Records provided by North Jersey District Water Supply Commission.

01387991 Hackensack Water Company diverts water from the Ramapo River by pumping from Pompton Lake above the gaging station into Oradell Reservoir in the Hackensack River basin (see Hackensack River basin, diversions). Pumping began Feb. 14, 1985. Records provided by Hackensack Water Company.

01388490 Passaic Valley Water Commission supplements the dependable yield of its supply at Little Falls by diverting water at high flows at the Jackson Avenue Pumping Station into Point View Reservoir on Haycock Brook for release as required to sustain minimum flow requirements. Also water may be released into Haycock Brook for maintenance of flow in that stream. These diversions and releases occur upstream of Pompton Plains gaging station. Records provided by Passaic Valley Water Commission. No diversion or release during the year.
REVISED RECORDS.--WDR NJ-82-1: Station number.

01389490 The Passaic Valley Water Commission diverts water from Passaic River above Beattie's Dam at Little Falls for municipal supply. Records provided by Passaic Valley Water Commission.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MONTH	01379510 COMMONWEALTH WATER COMPANY FROM PASSAIC RIVER	01379530 COMMONWEALTH WATER COMPANY FROM CANOE BROOK	01380800 JERSEY CITY	01382370 NEWARK	01386980 FROM WANAQUE RESERVOIR	01387990 FROM RAMAPO RIVER TO WANAQUE RESERVOIR	01389490 PASSAIC VALLEY WATER COMMISSION
October.....	2.48	2.48	79.0	102	127	0	73.6
November.....	77.7	11.2	80.0	115	112	17.8	67.2
December.....	52.5	8.41	76.5	111	127	121	52.6
CAL YR 1986..	19.0	4.34	80.4	112	130	68.4	66.9
January.....	33.8	4.64	78.4	108	130	0	57.3
February.....	19.7	0	79.9	111	141	0	55.7
March.....	19.2	13.3	81.4	105	136	0	57.6
April.....	9.15	8.64	77.7	102	127	0	63.6
May.....	2.54	7.29	62.3	110	137	0	78.9
June.....	2.64	3.38	77.2	115	170	0	87.8
July.....	.89	6.31	83.6	113	141	0	84.9
August.....	1.96	5.25	81.5	109	145	0	83.6
September....	6.97	7.89	79.6	109	138	0	75.9
WTR YR 1987..	19.2	6.61	78.3	109	137	0.4	70.1

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ

LOCATION.--Lat 40°40'30", long 74°13'20", Union County, Hydrologic Unit 02030104, on left bank at Ursino Lake Dam in Elizabeth, 75 ft upstream of bridge on Trotters Lane and 3.8 mi upstream from mouth.

DRAINAGE AREA.--16.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 1552: Drainage area, 1922-23, 1927-29(M), 1932, 1933-34(M), 1938(P), 1942(M) 1944(P), 1945(M), 1948(P), 1952-53(M). WDR NJ-84-1: 1974.

GAGE.--Water-stage recorder, crest-stage gages, and concrete control. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1922, nonrecording gage at site 2,800 ft downstream at datum 4.14 ft higher and Oct. 1, 1922 to May 18, 1923, at same site at datum 5.23 ft higher. May 19, 1923 to Dec. 27, 1972, at site 2,800 ft downstream at datum 5.23 ft higher and published as "Elizabeth River at Elizabeth" (station 01393500).

REMARKS.--Records fair. Diversion by pumpage from Hammock Well Field in Union for municipal supply by Elizabethtown Water Co., probably reduces the flow past the station. Some measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--66 years, 25.9 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,110 ft^3/s, Aug. 28, 1971, gage height, 18.7 ft, from floodmark, site and datum then in use, from rating curve extended above 1,100 ft^3/s on basis of contracted-opening measurement of peak flow; no flow many times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
July 14	2000	*937	*18.99	No peak greater than base discharge.			

Minimum discharge, 5.2 ft^3/s, Oct. 11, 12, 19, 25, Nov. 1, gage height, 13.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	5.6	11	11	17	294	28	12	10	25	8.5	31
2	16	7.2	97.7	202	31	57	17	11	10	69	8.4	9.2
3	43	6.1	149	53	43	26	14	12	9.6	81	9.6	8.5
4	21	11	26	23	31	19	139	25	84	12	9.0	8.2
5	9.6	43	16	17	19	16	50	24	36	8.6	38	8.1
6	6.6	57	14	15	17	15	68	16	12	8.3	112	7.8
7	6.6	9.6	12	15	16	14	43	14	9.4	8.2	17	46
8	6.4	90	11	13	15	13	21	13	9.6	108	11	47
9	6.3	21	101	12	46	13	17	12	12	92	28	21
10	6.0	10	30	32	17	12	15	11	9.8	18	212	9.6
11	5.6	93	28	25	14	12	14	11	9.4	11	23	8.7
12	5.4	18	30	14	15	16	13	12	14	9.8	13	17
13	12	10	13	12	17	17	17	12	10	9.7	10	188
14	57	8.2	11	12	13	12	13	12	10	251	9.7	45
15	9.0	7.4	11	12	11	11	13	15	30	72	8.9	16
16	7.6	7.0	11	11	11	11	12	11	10	27	8.5	15
17	6.9	7.4	10	11	11	11	34	10	9.0	15	9.0	56
18	5.8	28	165	82	11	11	28	11	8.7	12	9.2	80
19	5.4	95	36	66	11	12	13	20	8.9	37	8.7	22
20	6.0	e130	17	37	11	12	12	16	9.3	13	8.5	14
21	6.3	e140	13	24	10	11	12	12	58	11	8.5	12
22	6.3	23	12	17	10	10	12	11	62	11	8.2	16
23	6.2	13	11	17	36	9.9	12	50	19	11	7.7	12
24	6.2	25	26	14	21	10	19	13	11	28	8.0	14
25	5.5	12	153	12	13	10	36	10	9.6	30	7.8	11
26	62	230	23	12	12	13	17	10	9.0	57	7.8	9.3
27	12	60	16	12	11	10	14	12	121	22	100	8.8
28	7.4	23	13	12	11	33	20	11	15	12	75	9.3
29	6.6	15	12	13	---	11	15	11	9.5	9.9	37	9.3
30	6.1	12	12	42	---	14	15	11	8.4	9.4	11	17
31	6.0	---	11	31	---	176	---	10	---	9.1	9.0	---
TOTAL	380.3	1217.5	1101.7	881	501	911.9	753	441	644.2	1098.0	842.0	776.8
MEAN	12.3	40.6	35.5	28.4	17.9	29.4	25.1	14.2	21.5	35.4	27.2	25.9
MAX	62	230	165	202	46	294	139	50	121	251	212	188
MIN	5.4	5.6	10	11	10	9.9	12	10	8.4	8.2	7.7	7.8

CAL YR 1986 TOTAL 9344.2 MEAN 25.7 MAX 371 MIN 5.4
WTR YR 1987 TOTAL 9509.4 MEAN 26.2 MAX 294 MIN 5.4

e Estimated

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1979 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
09...	0920	5.9	545	7.9	17.0	8.5	88	2.4	11000	1700
JAN 1987										
21...	1030	18	3890	7.5	4.0	11.6	89	4.8	9200	5400
APR										
07...	0900	69	481	7.8	9.5	9.5	85	2.9	>24000	9200
JUN										
03...	1115	9.6	596	7.9	19.5	7.2	78	2.1	5400	16000
JUL										
15...	1215	69	203	7.5	23.0	6.5	76	3.9	5400	9200
AUG										
18...	1115	8.4	560	8.2	26.0	9.7	120	0.7	24000	20

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
09...	200	60	12	32	2.2	110	62	67	<0.1
JAN 1987									
21...	210	72	7.0	670	4.8	64	63	1200	<0.1
APR									
07...	140	45	6.6	46	2.1	87	33	78	<0.1
JUN									
03...	200	60	11	38	1.7	115	51	84	0.1
JUL									
15...	59	19	2.9	14	2.2	39	19	30	0.2
AUG									
18...	190	59	11	35	2.0	111	47	70	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
09...	13	310	0.030	1.08	0.13f	0.71	1.8	0.110	3.6
JAN 1987									
21...	8.5	2100	0.040	1.22	0.19	0.94	2.2	0.102	6.7
APR									
07...	10	270	0.042	1.91	0.12	0.72	2.6	0.076	7.9
JUN									
03...	11	330	0.048	1.04	0.18	0.99	2.0	0.068	2.7
JUL									
15...	6.0	120	0.047	1.01	0.14	1.1	2.1	0.150	7.9
AUG									
18...	13	300	0.027	0.96	0.05	0.46	1.4	0.060	4.1

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ--Continued

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT 1986											
09...	0920	<0.5	--	--	--	20	1	--	<10	100	<1
09...	0920	--	120	0.6	6.2	--	--	4	--	--	--

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 1986											
09...	--	<10	--	--	10	--	220	--	<5	--	50
09...	2	--	880	<10	--	60	--	3200	--	130	--

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	--	<0.10	--	4	--	2	--	350	--	5	--
09...	65	--	0.12	--	30	--	<1	--	240	--	150

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	<1.0	<0.1	54	6.3	4.9	0.4	<0.1	<0.1	<0.9	<0.1	<0.1

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986										
09...	--	--	--	--	--	--	--	--	--	--
09...	<0.1	<0.1	8.9	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01393950 WEST BRANCH RAHWAY RIVER AT WEST ORANGE, NJ

LOCATION.--Lat 40°47'01", long 74°16'27", Essex County, Hydrologic Unit 02030104, at bridge on Mountain Avenue, 300 ft downstream of Turtle Brook, and 400 ft southeast of intersection with Pleasant Valley Way in West Orange.

DRAINAGE AREA.--2.52 mi^2.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1982 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
15...	1200	E0.84	536	7.4	12.5	7.6	72	3.3	4900	1300
FEB 1987										
10...	1140	E1.1	2300	7.5	2.0	14.4	105	0.6	3500	130
APR										
07...	1045	E1.4	500	7.4	8.5	10.6	93	1.6	4300	700
JUN										
02...	1200	E0.64	1040	7.5	21.0	4.4	50	2.1	1300	3500
JUL										
13...	1130	E0.91	472	7.6	23.5	6.1	73	4.6	5400	1100
AUG										
11...	1045	E1.0	663	7.6	18.5	7.0	76	1.8	3500	3500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
15...	150	38	14	44	1.8	63	26	120	<0.1
FEB 1987									
10...	300	78	25	380	2.6	51	42	750	<0.1
APR									
07...	87	22	7.8	60	1.2	37	22	120	<0.1
JUN									
02...	270	65	25	96	1.6	82	31	260	<0.1
JUL									
13...	150	39	12	37	1.4	54	20	99	<0.1
AUG									
11...	160	40	14	58	1.7	68	26	150	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
15...	12	290	0.011	0.41	0.01	0.70	1.1	0.060	4.9
FEB 1987									
10...	16	1300	0.007	1.52	0.14	0.44	2.0	<0.020	4.3
APR									
07...	10	270	0.020	0.96	0.07	0.63	1.6	<0.020	6.4
JUN									
02...	18	550	0.072	0.85	0.36	1.4	2.2	0.089	3.8
JUL									
13...	11	250	0.020	0.40	0.09	1.8	2.3	0.150	12
AUG									
11...	15	350	0.011	1.07	0.11	1.1	2.2	0.080	8.4

01393950 WEST BRANCH RAHWAY RIVER AT WEST ORANGE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1986 15...	1200	<0.5	20	<1	<10	80	<1	<10	8

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 15...	230	5	40	<0.10	2	<1	110	5

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ

LOCATION.--Lat 40°41'11", long 74°18'44", Union County, Hydrologic Unit 02030104, on left bank 50 ft downstream from bridge on eastbound U.S. Highway 22, 100 ft downstream from Pope Brook, and 1.5 mi south of Springfield.

DRAINAGE AREA.--25.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1622: 1945. WRD-NJ 1973: 1938(M), 1968(M), 1971(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 66.17 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those above 50 ft^3/s, which are fair. Water for municipal supply diverted from river by city of Orange. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, Short Hills Water Co., and Springfield station of Elizabethtown Water Co. Several measurements of water temperature, other than those published, were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 28.8 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft^3/s, Aug. 2, 1973, gage height, 9.76 ft, from floodmark, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.1 ft^3/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	2315	1,120	5.67	July 14	2015	*1,290	*6.06
Apr. 4	1700	1,050	5.47				

Minimum daily discharge, 3.2 ft^3/s, Oct. 29, Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.2	10	14	25	496	87	17	8.5	10	7.2	17
2	4.2	4.1	71	295	37	209	33	15	8.8	51	7.2	6.7
3	36	3.5	353	104	61	77	22	27	9.4	80	7.6	6.4
4	20	3.8	44	44	59	47	551	90	70	6.4	8.0	6.0
5	5.1	19	23	27	35	34	160	46	36	5.6	62	6.0
6	3.5	56	16	23	27	28	170	27	7.4	5.4	112	6.2
7	5.0	6.1	12	23	26	29	99	20	6.6	5.5	9.2	106
8	5.3	87	11	21	26	29	52	17	6.7	79	7.9	57
9	5.7	14	98	18	55	27	36	15	8.0	104	16	25
10	4.0	9.6	73	35	27	18	29	14	6.9	8.8	151	7.8
11	5.2	84	30	57	23	17	24	14	8.0	7.6	12	7.0
12	6.5	14	45	30	21	18	22	13	9.9	7.6	9.2	8.0
13	9.0	5.9	21	22	21	23	32	12	8.3	6.7	7.3	343
14	42	7.3	13	19	17	18	20	13	7.1	437	8.1	79
15	4.2	8.2	12	20	15	16	17	20	6.8	199	7.2	14
16	3.9	8.3	11	19	14	15	16	11	7.3	17	6.9	13
17	3.6	8.0	11	16	14	14	51	11	5.7	11	7.2	26
18	4.8	16	164	77	14	14	49	23	5.8	9.5	7.5	71
19	5.1	92	98	104	13	14	22	33	5.4	33	6.8	23
20	4.5	84	28	58	13	14	18	14	5.2	12	6.7	10
21	5.3	325	19	36	12	14	16	13	76	8.8	6.6	8.1
22	6.7	23	15	28	12	14	15	11	74	8.3	6.9	8.2
23	7.2	11	14	33	27	13	15	45	8.7	7.9	7.1	9.0
24	9.0	18	17	20	21	13	58	11	5.9	34	7.3	8.3
25	5.2	9.6	329	16	14	12	111	9.0	6.9	22	7.5	8.5
26	55	297	52	17	14	12	27	7.8	5.2	75	7.5	6.6
27	8.3	295	29	15	13	11	20	9.6	71	10	100	6.6
28	4.2	29	23	15	12	28	37	8.3	6.2	7.6	62	6.2
29	3.2	17	19	15	---	11	23	9.3	5.9	7.2	31	6.7
30	3.5	12	16	40	---	17	23	8.6	6.4	7.2	7.4	12
31	3.4	---	15	43	---	350	---	8.3	---	7.2	6.8	---
TOTAL	292.4	1570.6	1692	1304	668	1652	1855	592.9	504.0	1291.3	717.1	918.3
MEAN	9.43	52.4	54.6	42.1	23.9	53.3	61.8	19.1	16.8	41.7	23.1	30.6
MAX	55	325	353	295	61	496	551	90	76	437	151	343
MIN	3.2	3.2	10	14	12	11	15	7.8	5.2	5.4	6.6	6.0

CAL YR 1986 TOTAL 11085.8 MEAN 30.4 MAX 858 MIN 3.1
WTR YR 1987 TOTAL 13057.5 MEAN 35.8 MAX 551 MIN 3.2

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
15...	1005	4.9	240	7.4	13.5	5.4	52	4.2	54000	54000
FEB 1987										
10...	0950	26	2240	7.5	0.5	14.5	102	1.5	2400	>2400
APR										
06...	1145	220	288	7.4	9.0	10.3	90	2.1	5400	9200
JUN										
02...	1000	8.5	589	7.6	22.5	3.4	39	1.6	270	170
JUL										
13...	1000	6.6	506	7.7	23.0	4.1	48	1.8	3300	1700
AUG										
11...	0915	11	315	7.5	20.0	5.0	55	1.8	3500	2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
15...	81	25	4.5	13	2.6	61	22	22	<0.1
FEB 1987									
10...	170	53	10	410	2.5	65	42	700	<0.1
APR									
06...	52	15	3.6	29	1.2	30	14	55	<0.1
JUN									
02...	200	61	12	37	2.1	115	37	86	<0.1
JUL									
13...	180	57	10	30	1.8	112	34	60	<0.1
AUG									
11...	100	32	5.6	17	1.8	74	23	28	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
15...	8.1	130	0.020	0.85	0.13	1.1	1.9	0.150	6.7
FEB 1987									
10...	12	1300	0.015	1.41	0.12	0.48	1.9	0.037	5.4
APR									
06...	7.2	140	0.018	0.75	0.17	0.77	1.5	0.086	7.4
JUN									
02...	16	320	0.104	1.01	0.24	1.4	2.4	0.188	4.5
JUL									
13...	12	270	0.065	1.31	0.13	0.87	2.2	0.130	5.9
AUG									
11...	11	160	0.032	1.37	0.12	1.0	2.4	0.130	7.2

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 15...	1005	--	0.3	5.2	--	--	4	--	--	--	<1
JUN 1987 02...	1000	<0.5	--	--	30	1	--	<10	90	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 15...	--	10	10	--	80	--	5000	--	380	--	160
JUN 1987 02...	<10	--	--	5	--	460	--	<5	--	360	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 15...	--	0.07	--	20	--	<1	--	320	25	<1.0	<0.1
JUN 1987 02...	<0.10	--	3	--	<1	--	20	--	--	--	--

DATE	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1986 15...	25	2.2	3.9	5.9	0.1	<0.1	<0.1	<0.1	0.1	0.5
JUN 1987 02...	--	--	--	--	--	--	--	--	--	--

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 15...	<0.1	<0.1	<1.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987 02...	--	--	--	--	--	--	--	--	--	--

01395000 RAHWAY RIVER AT RAHWAY, NJ

LOCATION.--Lat 40°37'05", long 74°17'00", Union County, Hydrologic Unit 02030104, on left bank 100 ft upstream from St. Georges Avenue bridge in Rahway and 0.9 mi upstream from Robinsons Branch.

DRAINAGE AREA.--40.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1908 to April 1915 (gage heights and discharge measurements only), October 1921 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1930-31(M), 1937. WDR NJ-79-1: 1978.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.77 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1934, nonrecording gage at site 40 ft downstream from Church Street and 1,500 ft downstream from present site at datum 2.77 ft lower.

REMARKS.--Records fair. Water for municipal supply diverted from river by Rahway and Orange. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, Short Hills Water Co., Springfield station of Elizabethtown Water Co, and by storage in the Lenape Park flood control reservoir (since 1980). Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--66 years (water years 1922-87), 47.3 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,420 ft^3/s, Aug. 2, 1973, gage height, 7.88 ft, from rating curve extended above 3,000 ft^3/s; no flow part or all of some days in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0315	779	3.50	Apr. 4	1545	*1,280	*4.29
Nov. 26	2230	936	3.74	July 14	1900	1,110	4.02
Dec. 3	1445	645	3.27	Aug. 6	0215	747	3.45
Jan. 2	1200	607	3.19	Aug. 10	0515	663	3.32
Mar. 1	2215	1,010	3.84	Sep. 13	1715	609	3.23
Mar. 31	1615	700	3.38				

Minimum daily discharge, 0.10 ft^3/s, Aug. 22,23, Sept. 11, 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	6.3	23	24	42	568	280	24	4.6	12	6.2	28
2	1.1	10	50	405	45	599	64	23	21	71	6.3	9.8
3	3.1	8.7	532	237	87	111	49	23	13	128	9.7	5.6
4	50	12	180	86	108	73	646	111	70	16	7.2	5.1
5	8.1	22	46	38	60	58	539	72	99	7.7	32	5.0
6	8.0	119	32	32	39	49	173	40	11	5.5	285	5.2
7	1.2	35	25	33	37	49	100	32	5.3	7.5	26	32
8	1.1	97	21	33	37	47	56	28	4.7	115	14	158
9	1.2	73	90	31	78	45	41	25	9.4	155	15	66
10	1.3	24	164	46	51	41	36	22	6.0	21	323	23
11	1.3	72	63	84	34	35	32	19	4.1	10	30	e1.3
12	1.2	115	55	45	32	37	28	19	5.8	11	19	6.4
13	1.2	23	31	33	33	46	38	17	9.8	18	12	281
14	44	13	26	30	28	41	32	19	12	281	8.2	309
15	16	11	21	31	25	37	27	33	3.8	640	11	32
16	1.8	12	21	30	25	34	25	21	4.5	60	7.1	21
17	1.4	12	21	25	24	34	52	19	3.2	14	22	27
18	1.2	15	163	81	21	31	57	23	2.5	3.0	8.7	100
19	1.2	166	253	191	19	30	31	61	2.6	33	5.3	47
20	1.1	66	66	107	19	32	26	23	2.6	42	5.6	40
21	1.1	568	34	50	19	32	24	21	96	16	2.5	20
22	.97	136	27	47	18	32	18	14	125	11	e.70	14
23	1.3	36	24	43	35	30	13	32	43	6.4	e.60	18
24	1.8	35	24	35	42	30	37	19	8.3	9.7	e1.8	11
25	1.5	32	445	35	30	30	184	8.9	8.4	68	4.9	12
26	23	215	134	34	23	31	44	7.7	5.6	116	4.7	e1.5
27	45	681	42	33	22	29	31	11	128	48	111	e.70
28	4.1	130	34	33	22	52	46	11	21	18	76	e19
29	4.2	41	30	32	---	34	34	8.0	7.1	13	62	17
30	4.2	29	26	44	---	29	32	8.1	7.4	11	19	13
31	4.9	---	25	84	---	349	---	8.3	---	8.0	7.5	---
TOTAL	238.67	2815.0	2728	2092	1055	2675	2795	803.0	744.7	1975.8	1144.00	1328.60
MEAN	7.70	93.8	88.0	67.5	37.7	86.3	93.2	25.9	24.8	63.7	36.9	44.3
MAX	50	681	532	405	108	599	646	111	128	640	323	309
MIN	.97	6.3	21	24	18	29	13	7.7	2.5	3.0	.60	.70

CAL YR 1986 TOTAL 18622.85 MEAN 51.0 MAX 1430 MIN .67
WTR YR 1987 TOTAL 20394.71 MEAN 55.9 MAX 681 MIN .60

e Estimated

01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1952, 1962, 1967-70, and February 1979 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
09...	1140	E1.2	305	7.7	16.0	8.1	82	1.8	700	200
JAN 1987										
21...	1235	49	883	7.6	2.5	13.7	100	2.7	790	790
APR										
06...	0945	213	328	7.6	10.5	10.7	97	2.7	>2400	>2400
JUN										
03...	0945	12	520	7.8	21.5	6.3	71	2.7	3500	5400
JUL										
15...	1000	887	171	7.4	22.5	7.9	92	5.7	16000	>24000
AUG										
18...	1000	7.3	477	7.9	25.5	6.2	76	1.2	330	230

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
09...	120	38	6.6	15	2.4	82	30	26	0.1
JAN 1987									
21...	100	32	6.0	130	1.8	52	30	220	<0.1
APR									
06...	72	21	4.7	30	1.5	41	21	49	<0.1
JUN									
03...	180	56	10	27	1.9	119	42	61	0.1
JUL									
15...	41	12	2.6	14	1.8	21	14	35	<0.1
AUG									
18...	180	54	10	23	2.0	115	39	44	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
09...	10	180	0.027	0.87	0.11	0.67	1.5	0.100	4.7
JAN 1987									
21...	9.2	460	0.023	0.93	0.13	0.53	1.5	0.096	5.6
APR									
06...	8.4	160	0.029	0.84	0.14	1.0	1.9	0.114	7.7
JUN									
03...	14	280	0.082	0.99	0.58	1.1	2.1	0.117	4.0
JUL									
15...	4.1	96	0.041	0.81	0.15	1.3	2.1	0.270	13
AUG									
18...	14	260	0.017	1.00	<0.05	0.59	1.6	0.080	4.4

01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT 1986											
09...	1140	--	--	0.2	10	--	--	6	--	--	--
09...	1140	<0.5	1200	--	--	<10	2	--	<10	90	<1

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 1986											
09...	<1	--	9	<10	--	30	--	4800	--	120	--
09...	--	<10	--	--	9	--	750	--	9	--	190

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	160	--	0.07	--	<10	--	<1	--	130	--	390
09...	--	<0.10	--	3	--	<1	--	550	--	2	--

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986										
09...	<1.0	0.3	140	13	24	0.9	<0.1	30	1.6	0.1
09...	--	--	--	--	--	--	--	--	--	--

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986										
09...	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
09...	--	--	--	--	--	--	--	--	--	--

01396000 ROBINSONS BRANCH AT RAHWAY, NJ

LOCATION.--Lat 40°36'20", long 74°17'40", Union County, Hydrologic Unit 02030104, on right bank of Milton Lake, 2,000 ft upstream from Maple Avenue in Rahway, 3,200 ft downstream from Middlesex Reservoir Dam, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--September 1939 to current year. September 1939 to September 1978, published as "Robinsons Branch Rahway River at Rahway." October 1978 to September 1985, published as "Robinsons Branch Rahway River at Maple Avenue, at Rahway" (station 01396001).

REVISED RECORDS.--WDR-NJ-75-1: 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 19.99 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). From Sept. 26, 1978 to Sept. 30, 1985, water-stage recorder 2,000 ft downstream on Maple Avenue at datum 8.69 ft lower.

REMARKS.--No estimated daily discharges. Records good above 10 ft^3/s and fair below. Water diverted for municipal supply by Middlesex Water Co., from Middlesex Reservoir, capacity, 89,000,000 gal, 1.0 mi above station. No diversion this year. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 25.7 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,110 ft^3/s, July 15, 1975, gage height, 5.85 ft, from rating curve extended above 750 ft^3/s on basis of flow-over-dam computation, site and datum then in use; maximum gage height, 6.02 ft, Aug. 15, 1969, site and datum then in use; no flow many times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0115	545	4.76	Apr. 4	1445	*1,110	*5.12
Nov. 26	2115	771	4.92	July 14	1900	592	4.80
Dec. 3	0130	482	4.71	Aug. 6	0115	469	4.70
Mar. 1	1430	676	4.86	Aug. 10	0300	528	4.75

No flow parts of Oct. 2,3 when the bypass gate was closed and lake was refilling.

CORRECTION: The annual maximum published for water year 1986 as occurring on Oct. 17, 1985, actually occurred Nov. 17, 1985.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.73	4.1	9.0	12	25	369	108	12	5.5	16	4.3	11
2	.21	5.0	48	250	28	283	24	11	8.3	62	4.3	5.5
3	3.0	4.1	310	168	52	72	16	14	7.3	72	7.9	4.5
4	18	5.0	94	49	67	30	434	75	50	15	6.4	3.2
5	7.5	12	18	24	39	22	294	61	72	7.2	28	3.7
6	5.8	67	12	17	25	19	163	28	13	5.6	190	4.2
7	4.2	14	11	15	24	18	80	20	6.3	5.4	24	15
8	4.5	76	11	14	24	16	43	17	5.7	85	9.0	23
9	5.4	49	86	12	38	15	26	14	8.1	92	14	19
10	5.1	23	100	23	28	11	19	12	7.3	17	262	6.6
11	4.2	78	33	40	19	9.7	17	12	4.2	9.3	50	4.6
12	4.7	69	41	25	18	12	15	12	4.2	8.1	9.7	4.9
13	5.0	16	22	16	16	16	20	9.0	4.9	7.9	6.7	120
14	16	11	13	13	13	15	17	8.7	5.2	145	5.5	57
15	6.5	11	10	13	11	12	15	20	3.9	151	5.5	12
16	4.6	9.9	9.1	12	9.5	11	14	17	3.0	24	5.2	7.6
17	4.3	10	8.9	10	9.2	9.6	33	9.3	3.2	8.1	4.9	16
18	4.4	13	118	39	13	8.7	51	11	2.7	5.8	4.7	67
19	4.2	114	143	98	11	9.2	24	23	2.8	21	4.4	29
20	4.2	59	33	74	9.6	9.3	16	11	3.2	21	4.3	12
21	4.4	260	16	34	9.5	9.3	15	11	20	7.6	3.3	8.1
22	4.6	64	13	26	10	9.1	13	7.8	54	5.3	4.5	16
23	4.7	14	11	18	19	8.7	12	6.7	25	4.7	4.9	20
24	4.1	19	13	16	23	8.9	31	6.5	6.6	7.0	2.9	10
25	4.1	14	250	12	18	9.0	196	5.8	4.2	16	2.2	7.3
26	14	177	91	13	16	10	44	5.8	3.7	113	2.3	5.3
27	7.6	247	22	12	15	9.2	21	6.7	83	68	45	5.6
28	5.0	68	15	10	14	20	29	6.9	18	11	25	5.7
29	4.0	15	12	10	---	14	23	6.1	6.8	6.4	20	5.7
30	5.3	11	14	19	---	11	19	5.7	5.9	4.7	8.1	8.1
31	4.0	---	13	32	---	169	---	5.6	---	4.7	5.1	---
TOTAL	174.34	1539.1	1600.0	1126	603.8	1245.7	1832	471.6	448.0	1026.8	774.1	517.6
MEAN	5.62	51.3	51.6	36.3	21.6	40.2	61.1	15.2	14.9	33.1	25.0	17.3
MAX	18	260	310	250	67	369	434	75	83	151	262	120
MIN	.21	4.1	8.9	10	9.2	8.7	12	5.6	2.7	4.7	2.2	3.2

CAL YR 1986 TOTAL 10381.60 MEAN 28.4 MAX 817 MIN .21
WTR YR 1987 TOTAL 11358.96 MEAN 31.1 MAX 434 MIN .21

01396280 SOUTH BRANCH RARITAN RIVER AT MIDDLE VALLEY, NJ

LOCATION.--Lat 40°45'40", long 74°49'18", Morris County, Hydrologic Unit 02030105, at bridge on Middle Valley Road in Middle Valley, 6.9 mi downstream from Drakes Brook.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--Water years 1964-65, 1967, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
01...	1200	E30	254	8.2	14.0	10.8	107	<0.7	140	350
FEB 1987										
17...	1045	E67	273	8.0	0.5	14.0	99	E1.7	130	920
MAR										
18...	1045	E99	234	8.1	5.5	13.6	110	<0.6	<20	27
JUN										
18...	1100	E39	274	8.1	18.0	10.6	113	3.0	330	350
JUL										
20...	1100	E47	223	7.8	19.5	9.4	104	<2.3	1300	>2400
AUG										
19...	1145	E33	284	8.4	20.0	10.8	121	E1.9	310	1600

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
01...	100	22	11	11	1.8	83	10	18	<0.1
FEB 1987									
17...	82	18	9.1	17	1.4	61	14	30	<0.1
MAR									
18...	70	16	7.4	12	1.1	48	12	21	<0.1
JUN									
18...	100	22	12	12	1.8	86	10	19	<0.1
JUL									
20...	91	20	10	13	1.5	68	11	24	<0.1
AUG									
19...	100	22	12	12	1.2	89	12	20	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
01...	13	140	0.033	1.68	0.05	0.76	2.4	0.180	2.9
FEB 1987									
17...	13	140	0.018	2.05	0.25	0.55	2.6	0.078	2.4
MAR									
18...	12	110	E0.027	1.53	0.12	0.27	1.8	0.056	1.6
JUN									
18...	13	140	0.046	2.10	<0.05	0.34	2.4	0.245	2.2
JUL									
20...	11	130	0.027	1.81	0.08	0.62	2.4	0.140	5.4
AUG									
19...	7.9	140	0.027	1.54	0.05	0.85	2.4	0.140	2.1

01396280 SOUTH BRANCH RARITAN RIVER AT MIDDLE VALLEY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986											
01...	1200	<0.5	--	--	20	1	--	<10	40	<1	--
01...	1200	--	0.4	2.4	--	--	3	--	--	--	<1
JUN 1987											
18...	1100	<0.5	--	--	10	3	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986											
01...	<10	--	--	3	--	140	--	<5	--	10	--
01...	--	5	<10	--	5	--	4900	--	<10	--	180
JUN 1987											
18...	20	--	--	3	--	190	--	<5	--	20	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
01...	<0.10	--	3	--	<1	--	70	--	2	--	--
01...	--	0.01	--	<10	--	<1	--	30	--	<1	<1.0
JUN 1987											
18...	<0.10	--	1	--	<1	--	<10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	<0.1	2.0	0.2	0.8	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1987											
18...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987											
18...	--	--	--	--	--	--	--	--	--	--	--

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, NJ

LOCATION.--Lat 40°40'40", long 74°52'46", Hunterdon County, Hydrologic Unit 02030105, on left bank 1.0 mi northeast of High Bridge, and 4.4 mi upstream from Spruce Run.

DRAINAGE AREA.--65.3 mi^2.

PERIOD OF RECORD.--October 1918 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 601: 1924. WSP 781: Drainage area. WSP 1552: 1919(M), 1920(M), 1921, 1923, 1924(M), 1927-28(M), 1934(M), 1941(M).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Sept. 28, 1930. Datum of gage is 282.10 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Sept. 30, 1921, reference point at same site and datum.

REMARKS.--No estimated daily discharges. Records good except below 30 ft^3/s, which are fair. Occasional regulation from unknown source. Several measurements of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--69 years, 122 ft^3/s, 25.38 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,910 ft^3/s, Jan. 25, 1979, gage height, 12.07 ft; maximum height, 12.23 ft, Feb. 24, 1979 (ice jam); minimum discharge, 6.6 ft^3/s, Oct. 11, 1930; minimum daily, 13 ft^3/s, Aug. 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred on Feb. 6, 1896, in February 1902, and October 1903. At High Bridge, according to reports of the New Jersey State Geologist, the discharges for these floods respectively were 7,560 ft^3/s, 3,840 ft^3/s, and 2,670 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0915	1,560	9.06	Dec. 25	1000	1,010	8.45
Nov. 27	0145	1,040	8.49	Apr. 4	2015	*2,100	*9.53
Dec. 3	0845	1,010	8.45				

Minimum discharge, 34 ft^3/s, Sept. 29, gage height, 5.76 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	46	131	154	113	429	387	140	78	56	48	60
2	42	47	153	184	114	460	196	134	91	94	46	53
3	43	47	677	176	130	289	170	143	89	104	52	49
4	69	47	256	158	142	216	1300	225	87	66	54	47
5	61	50	191	142	124	181	802	198	101	57	62	46
6	53	114	169	135	114	177	524	167	78	53	246	48
7	48	75	160	134	113	260	446	147	75	51	92	72
8	47	112	153	131	114	321	359	134	71	93	64	106
9	47	114	221	124	113	285	305	127	70	134	61	227
10	46	84	293	128	99	219	272	120	66	83	214	89
11	45	115	187	160	104	186	245	115	63	62	93	67
12	46	165	174	140	102	181	227	110	64	73	67	62
13	47	88	155	125	98	173	234	105	69	162	57	411
14	57	72	130	122	93	164	207	101	64	89	56	403
15	59	66	134	162	88	156	193	122	61	173	53	129
16	50	65	131	186	86	149	183	114	58	79	51	98
17	48	63	132	131	93	141	232	102	55	67	50	110
18	48	63	325	130	91	135	247	98	54	63	49	284
19	46	137	355	180	87	133	194	130	54	59	46	181
20	46	125	194	165	86	125	174	122	53	66	45	133
21	46	930	168	144	85	121	163	125	56	61	44	106
22	45	215	153	130	87	119	155	105	76	56	44	97
23	45	144	145	137	94	115	146	98	67	52	44	91
24	44	142	144	123	88	111	189	97	56	54	43	84
25	44	123	655	121	85	108	322	92	53	52	41	79
26	50	348	278	126	84	107	187	90	52	79	41	74
27	67	533	217	122	84	103	162	89	68	82	71	71
28	55	206	197	119	82	112	167	89	64	54	107	69
29	49	167	182	e130	---	109	168	84	54	50	109	62
30	48	146	174	e128	---	108	153	80	51	49	67	70
31	47	---	165	e118	---	597	---	77	---	51	54	---
TOTAL	1531	4649	6799	4365	2793	6090	8709	3680	1998	2324	2171	3478
MEAN	49.4	155	219	141	99.7	196	290	119	66.6	75.0	70.0	116
MAX	69	930	677	186	142	597	1300	225	101	173	246	411
MIN	42	46	130	118	82	103	146	77	51	49	41	46
CFSM	.76	2.37	3.36	2.16	1.53	3.01	4.45	1.82	1.02	1.15	1.07	1.78
IN.	.87	2.65	3.87	2.49	1.59	3.47	4.96	2.10	1.14	1.32	1.24	1.98

CAL YR 1986 TOTAL 51036 MEAN 140 MAX 930 MIN 42 CFSM 2.14 IN. 29.07
WTR YR 1987 TOTAL 48587 MEAN 133 MAX 1300 MIN 41 CFSM 2.04 IN. 27.67

e Estimated

01396535 SOUTH BRANCH RARITAN RIVER AT ARCH STREET AT HIGH BRIDGE, NJ

LOCATION.--Lat 40°39'49", long 74°53'52", Hunterdon County, Hydrologic Unit 02030105, at bridge on Arch Street in High Bridge, 0.9 mi northeast of Mariannes Corner, 1.0 mi downstream from Lake Solitude dam, and 4.3 mi northeast of Norton.

DRAINAGE AREA.--68.8 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 02...	1030	E41	250	8.3	14.0	9.8	96	E0.8	120	130
FEB 1987 17...	1215	E97	285	8.4	0.0	15.8	109	E1.5	80	33
MAR 18...	1215	E147	237	8.6	5.5	14.1	113	<0.8	<20	11
JUN 18...	1330	E53	273	8.4	21.5	9.6	109	E1.7	20	110
JUL 20...	1300	E67	232	7.8	22.0	8.8	102	E2.0	790	1600
AUG 19...	1345	E45	253	8.4	23.5	9.7	115	E1.8	80	79

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 02...	100	22	12	9.4	1.7	85	12	15	0.1
FEB 1987 17...	89	19	10	16	1.4	66	15	27	<0.1
MAR 18...	73	16	8.0	11	1.1	52	14	18	<0.1
JUN 18...	100	22	12	10	1.4	88	13	16	<0.1
JUL 20...	98	21	11	11	1.4	81	11	19	<0.1
AUG 19...	100	22	12	11	3.1	91	14	18	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 02...	13	140	0.016	1.40	0.08	0.40	1.8	0.110	2.6
FEB 1987 17...	13	140	0.014	1.89	0.16	0.25	2.1	0.041	3.8
MAR 18...	11	110	E0.024	1.40	0.14	0.25	1.7	0.039	1.2
JUN 18...	11	140	0.026	1.51	<0.05	0.45	2.0	0.118	2.1
JUL 20...	11	130	0.016	1.37	0.11	0.72	2.1	0.120	4.5
AUG 19...	6.4	140	0.031	1.07	0.08	0.67	1.7	0.070	3.1

01396535 SOUTH BRANCH RARITAN RIVER AT ARCH STREET AT HIGH BRIDGE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 02...	1030	<0.5	30	<1	<10	30	<1	20	11
JUN 1987 18...	1330	<0.5	20	1	<10	<10	<1	<10	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 02...	260	<5	30	<0.10	4	<1	40	6
JUN 1987 18...	270	<5	40	<0.10	2	<1	<10	3

01396580 SPRUCE RUN AT GLEN GARDNER, NJ

LOCATION.--Lat 40°41'29", long 74°56'15", Hunterdon County, Hydrologic Unit 02030105, on right downstream wingwall of bridge on Sanatorium Road in Glen Gardner, 0.8 mi downstream from Alpaugh Brook, and 2.0 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--March 1978 to current year.

REVISED RECORD.--WDR NJ-86-1: 1983-85(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 389.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 20.9 ft^3/s, 23.08 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,820 ft^3/s, Jan. 24, 1979, gage height, 7.60 ft, from high-water mark, from rating curve extended above 700 ft^3/s on basis of slope-conveyance computation; minimum, 1.1 ft^3/s, Oct. 1, 1982, minimum gage height, 1.76 ft Sept. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2400	1,030	4.70	Apr. 4	1345	*1,180	*5.10
Nov. 26	1930	536	3.76	Sept. 13	1415	711	4.02
Dec. 3	0145	536	3.76				

Minimum daily discharge, 3.0 ft^3/s Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.2	16	19	e16	192	39	22	e8.6	e9.0	e4.6	e8.7
2	4.5	5.9	39	25	e18	105	25	20	12	13	e4.7	e5.3
3	5.0	6.2	198	23	e24	57	22	31	11	14	e5.8	3.3
4	8.0	6.0	39	20	e25	41	433	63	10	9.6	e5.3	3.1
5	7.8	7.2	28	18	e19	34	99	42	13	9.4	11	3.0
6	5.7	21	23	18	e18	37	112	31	10	8.7	21	4.3
7	4.6	10	21	17	e19	67	80	25	10	8.7	7.7	6.1
8	4.3	24	20	16	e19	56	57	21	e9.6	14	7.6	12
9	4.4	18	58	15	e18	42	47	20	e10	30	9.4	25
10	4.3	12	50	18	e16	30	42	18	e8.5	16	44	6.2
11	4.1	36	27	30	e15	25	37	16	e7.8	7.5	9.8	4.4
12	4.2	21	25	21	e16	24	35	16	e8.7	7.0	e7.8	4.1
13	4.7	12	20	18	e15	23	42	14	e8.8	6.7	e7.2	188
14	9.1	8.5	17	18	e14	21	32	13	e7.5	16	e6.9	41
15	7.6	7.6	17	34	e12	20	29	21	e6.9	15	e6.3	12
16	5.3	7.5	17	28	e13	19	27	17	e6.3	8.1	e5.9	9.7
17	5.0	6.9	18	18	e12	18	53	14	e5.9	e8.5	e5.6	19
18	5.0	7.3	91	21	e13	17	49	13	e5.7	e7.5	e5.4	44
19	4.9	30	55	37	e12	16	32	16	e5.6	e6.9	e4.6	19
20	4.8	88	27	29	e11	15	27	20	e5.5	e7.4	e4.3	13
21	4.8	189	22	22	e11	15	25	18	e6.6	e6.6	e4.0	11
22	4.8	27	19	18	e12	14	23	14	13	e6.2	e5.0	10
23	4.8	18	17	e23	e15	13	22	13	11	e5.4	e4.5	9.1
24	4.8	21	18	e18	e13	13	59	e12	e6.6	e5.4	e3.8	8.2
25	4.9	16	165	e17	e12	12	102	e11	e5.8	e5.3	e3.7	7.4
26	7.8	153	38	e18	e11	12	35	e11	e5.9	11	e3.7	6.8
27	10	67	30	e17	e12	12	28	e12	10	e8.6	e13	6.7
28	7.4	29	26	e17	e13	16	32	e11	e7.3	e5.6	e12	6.3
29	6.2	23	24	e20	---	14	31	e9.8	e6.0	e4.9	e12	6.2
30	5.7	19	23	e20	---	16	27	e9.1	e6.6	e4.9	e6.3	7.3
31	5.4	---	21	e18	---	131	---	e8.7	---	e5.2	e4.8	---
TOTAL	174.2	902.3	1209	651	424	1127	1703	582.6	250.2	292.1	257.7	510.2
MEAN	5.62	30.1	39.0	21.0	15.1	36.4	56.8	18.8	8.34	9.42	8.31	17.0
MAX	10	189	198	37	25	192	433	63	13	30	44	188
MIN	4.1	5.2	16	15	11	12	22	8.7	5.5	4.9	3.7	3.0
CFSM	.46	2.45	3.17	1.71	1.23	2.96	4.62	1.53	.68	.77	.68	1.38
IN.	.53	2.73	3.66	1.97	1.28	3.41	5.15	1.76	.76	.88	.78	1.54

CAL YR 1986 TOTAL 8078.5 MEAN 22.1 MAX 290 MIN 4.1 CFSM 1.80 IN. 24.43
WTR YR 1987 TOTAL 8083.3 MEAN 22.1 MAX 433 MIN 3.0 CFSM 1.80 IN. 24.44

e Estimated

01396588 SPRUCE RUN NEAR GLEN GARDNER, NJ

LOCATION.--Lat 40°40'41", long 74°55'06", Hunterdon County, Hydrologic Unit 02030105, at site 800 ft downstream of Rocky Run, 0.3 mi above Van Syckel Road bridge, 1.5 mi northwest of High Bridge, and 1.6 mi southeast of Glen Gardner.

DRAINAGE AREA.--15.5 mi^2.

PERIOD OF RECORD.--February 1979 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
28...	1245	E11	162	7.1	12.0	10.2	95	E0.9	<20	49
MAR 1987										
05...	1130	E139	178	7.8	2.5	15.0	110	E1.4	50	21
26...	1100	E24	140	8.7	11.0	12.5	115	<1.1	20	13
JUN										
17...	1200	E7.2	180	7.8	20.0	9.4	104	<0.8	940	1600
JUL										
27...	1230	E14	174	7.9	21.5	9.6	110	<1.1	1100	430
AUG										
27...	1030	E27	164	7.0	16.0	9.3	95	2.9	9200	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
28...	59	14	5.8	8.8	1.8	39	20	14	0.1
MAR 1987									
05...	46	11	4.5	9.2	1.0	22	21	15	<0.1
26...	50	12	4.9	8.6	1.1	26	17	14	0.1
JUN									
17...	58	14	5.5	9.8	1.3	35	19	18	0.1
JUL									
27...	62	15	6.0	10	1.9	38	18	12	0.2
AUG									
27...	49	12	4.6	8.6	2.2	30	20	12	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
28...	18	110	0.012	0.50	<0.05	0.38	0.88	0.050	2.8
MAR 1987									
05...	14	89	0.009	1.32	<0.05	0.38	1.7	0.027	1.5
26...	15	88	0.009	1.14	0.10	0.36	1.5	0.057	2.6
JUN									
17...	19	110	0.015	1.28	0.10	0.24	1.5	0.069	1.6
JUL									
27...	18	100	0.004	0.90	0.05	0.48	1.4	0.111	2.5
AUG									
27...	14	92	0.024	1.08	0.06	0.66	1.7	0.160	4.8

01396588 SPRUCE RUN NEAR GLEN GARDNER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986												
28...	1245	<0.5	--	--	--	10	<1	--	<10	40	<1	--
28...	1245	--	100	0.1	1.8	--	--	<1	--	--	--	<1
JUN 1987												
17...	1200	<0.5	--	--	--	<10	<1	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986											
28...	<10	--	--	7	--	330	--	<5	--	60	--
28...	--	8	10	--	10	--	5700	--	<10	--	230
JUN 1987											
17...	10	--	--	3	--	180	--	<5	--	40	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	<0.10	--	<1	--	<1	--	210	--	3	--	--
28...	--	<0.01	--	<10	--	<1	--	40	--	<1	<1.0
JUN 1987											
17...	<0.10	--	<1	--	<1	--	<10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1987											
17...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987											
17...	--	--	--	--	--	--	--	--	--	--	--

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ

LOCATION.--Lat 40°38'51", long 74°58'09", Hunterdon County, Hydrologic Unit 02030105, on left bank downstream side of bridge on Jutland Road, 0.2 mi south of Van Syckel, 0.8 mi north of Perryville, and 0.3 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--11.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1973-77. July 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 280.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except for the period July 15-20, which are poor. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--10 years, 20.8 ft^3/s, 23.94 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,950 ft^3/s, Jan. 24, 1979, gage height, 6.48 ft, from rating curve extended above 200 ft^3/s; minimum, 1.1 ft^3/s, Sept. 23, 1980, gage height, 0.66 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2400	670	3.73	Apr. 4	1330	*1,760	*5.54
Nov. 26	1930	387	2.99	Apr. 25	0030	336	2.83
Dec. 2	2400	457	3.20	Aug. 10	0245	842	4.09
Dec. 25	0215	679	3.75	Sept. 8	2045	301	2.71
Mar. 1	1145	351	2.88	Sept. 13	0915	546	3.44

Minimum discharge, 2.8 ft^3/s, Aug. 1,2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	12	18	16	157	28	26	9.1	9.6	3.1	11
2	4.1	4.3	56	25	20	70	21	24	16	13	3.3	5.0
3	5.4	3.8	130	23	27	40	18	35	11	17	4.2	4.0
4	6.3	4.5	27	19	26	31	445	53	14	7.0	3.7	3.6
5	5.9	8.5	20	17	20	26	75	38	15	5.6	20	3.5
6	3.9	19	18	16	18	27	89	30	9.6	5.0	27	7.1
7	3.5	7.5	16	17	19	31	61	26	9.1	5.0	9.4	7.7
8	3.6	27	15	17	19	29	49	24	9.1	17	8.5	55
9	3.7	13	42	16	17	25	43	22	10	13	17	35
10	3.4	8.0	33	18	16	22	39	21	8.2	7.3	135	11
11	3.5	26	21	25	16	20	36	21	7.6	5.6	15	7.8
12	3.7	16	22	19	16	20	36	20	9.3	4.8	10	7.5
13	4.5	9.0	17	19	15	20	37	18	8.7	4.5	8.2	148
14	9.6	7.4	14	18	14	19	31	18	7.5	45	7.5	28
15	5.1	7.0	15	22	12	19	30	22	6.8	12	6.7	14
16	4.1	6.2	15	19	13	18	29	18	6.1	8.0	6.1	11
17	3.9	5.7	15	15	13	17	55	17	5.7	5.5	5.5	28
18	4.2	8.4	67	22	13	17	46	17	5.5	4.9	5.3	33
19	3.8	36	33	37	12	16	33	19	5.3	4.5	4.1	20
20	3.8	49	21	27	12	16	29	23	5.2	4.6	3.8	15
21	3.8	100	18	21	12	16	27	19	7.1	4.2	3.3	13
22	3.8	19	17	17	13	15	25	16	20	4.3	4.9	28
23	3.9	13	16	22	16	14	24	16	12	3.6	4.0	16
24	4.2	17	21	17	15	14	62	14	7.4	3.5	3.2	11
25	4.1	13	176	16	14	14	102	13	6.1	3.7	3.2	9.9
26	12	125	32	17	14	14	37	13	6.1	9.8	3.2	8.9
27	8.3	41	25	15	14	13	31	14	13	5.4	15	8.4
28	5.5	21	23	16	15	18	34	13	7.0	3.7	8.9	8.1
29	4.6	17	21	15	---	15	33	11	5.5	3.2	11	7.9
30	4.6	14	20	16	---	18	29	10	7.4	3.2	5.4	10
31	4.0	---	19	17	---	74	---	9.5	---	3.4	4.3	---
TOTAL	148.3	649.8	997	598	447	865	1634	640.5	270.4	246.9	369.8	576.4
MEAN	4.78	21.7	32.2	19.3	16.0	27.9	54.5	20.7	9.01	7.96	11.9	19.2
MAX	12	125	176	37	27	157	445	53	20	45	135	148
MIN	3.4	3.5	12	15	12	13	18	9.5	5.2	3.2	3.1	3.5
CFSM	.41	1.84	2.73	1.63	1.35	2.36	4.62	1.75	.76	.67	1.01	1.63
IN.	.47	2.05	3.14	1.89	1.41	2.73	5.15	2.02	.85	.78	1.17	1.82

CAL YR 1986 TOTAL 6933.6 MEAN 19.0 MAX 189 MIN 3.4 CFSM 1.61 IN. 21.85
WTR YR 1987 TOTAL 7443.1 MEAN 20.4 MAX 445 MIN 3.1 CFSM 1.73 IN. 23.46

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
29...	0945	4.6	204	6.8	9.0	11.4	99	<1.1	230	130
MAR 1987										
05...	1245	26	189	8.0	4.5	13.9	107	E1.9	<20	14
26...	1215	14	148	8.8	13.0	11.6	111	<1.2	<20	130
JUN										
17...	1330	5.9	201	7.8	20.0	8.6	96	<0.7	700	920
JUL										
27...	1130	5.5	182	7.8	20.0	9.0	100	E1.5	2400	1600
AUG										
27...	1130	24	220	7.5	16.5	8.8	91	3.0	16000	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
29...	80	20	7.4	7.7	1.6	68	17	10	0.1
MAR 1987									
05...	56	15	4.6	8.8	1.0	34	20	12	<0.1
26...	59	15	5.3	7.3	1.1	41	17	11	<0.1
JUN									
17...	73	18	6.7	7.4	1.2	58	16	13	<0.1
JUL									
27...	72	18	6.5	7.5	1.5	60	16	9.8	0.2
AUG									
27...	58	15	5.1	9.5	2.4	44	22	11	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
29...	15	120	0.007	0.62	<0.05	0.52	1.1	0.200	1.8
MAR 1987									
05...	13	95	0.012	1.04	<0.05	0.21	1.2	0.038	1.2
26...	13	94	0.009	0.83	0.24	0.47	1.3	<0.020	1.8
JUN									
17...	16	110	0.010	1.08	0.07	0.28	1.4	0.032	1.7
JUL									
27...	14	110	0.005	0.87	0.21	0.52	1.4	0.045	2.7
AUG									
27...	9.0	100	0.037	1.01	0.10	1.0	2.0	0.110	6.5

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 17...	1330	<0.5	10	<1	<10	40	<1	10	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 17...	170	11	20	0.20	<1	<1	<10	2

01396800 SPRUCE RUN AT CLINTON, NJ

LOCATION.--Lat 40°38'21", long 74°54'58", Hunterdon County, Hydrologic Unit 02030105, 1,800 ft downstream from dam at Spruce Run Reservoir, 0.2 mi north of Clinton, 0.3 mi upstream from mouth, and 2.2 mi southwest of High Bridge.

DRAINAGE AREA.--41.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Mar. 15, 1964. Datum of gage is 193.5 ft above National Geodetic Vertical Datum of 1929. May to Nov. 24, 1959, nonrecording gage; Nov. 25, 1959 to July 23, 1961, water-stage recorder at site 1,800 ft upstream and at datum 1.41 ft lower; July 24, 1961 to Mar. 14, 1964, water-stage recorder at site 1,500 ft upstream at datum 1.41 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Spruce Run Reservoir (see Raritan River basin, reservoirs in). Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--28 years, 63.3 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,410 ft^3/s, Apr. 2, 1970, gage height, 5.17 ft; no flow Aug. 22 to Sept. 17, 1963, Sept. 19, 1963 to Mar. 14, 1964, Mar. 19, 1964, result of filling Spruce Run Reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft^3/s, Apr. 4, gage height, 3.45 ft; minimum daily, 5.1 ft^3/s, Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	27	8.4	9.8	9.2	12	13	62	26	43	19	40
2	69	27	9.5	10	9.4	11	8.2	59	32	13	39	21
3	55	27	12	9.7	9.7	10	39	84	28	8.4	19	31
4	55	27	9.5	9.7	9.7	10	767	185	34	7.6	13	36
5	55	22	8.8	9.7	9.7	9.8	535	164	58	7.4	28	27
6	51	8.8	8.5	9.7	9.7	9.8	367	127	43	7.9	11	56
7	55	7.5	8.3	9.7	9.7	9.8	294	99	18	9.0	9.6	38
8	55	6.9	8.3	9.7	9.7	9.7	223	77	36	9.9	11	9.6
9	55	6.2	9.3	9.7	9.7	9.6	179	74	37	10	12	9.2
10	49	7.6	8.9	9.7	9.6	7.6	159	67	45	9.4	278	8.9
11	30	12	8.6	9.7	9.7	7.7	142	55	11	9.1	100	9.0
12	30	9.0	9.1	9.7	9.7	8.3	128	62	10	9.3	40	9.1
13	30	7.4	8.4	9.5	9.7	8.3	139	43	15	9.0	24	14
14	17	8.3	8.3	9.7	9.7	8.3	115	42	17	27	17	84
15	7.1	8.3	8.3	9.7	9.7	8.3	102	70	33	58	16	53
16	18	8.3	8.3	9.9	9.7	8.2	94	55	47	25	14	39
17	26	7.7	8.3	10	9.7	7.9	137	46	34	17	25	52
18	26	8.3	9.9	10	9.7	8.2	174	44	49	18	38	119
19	26	8.7	8.3	11	9.7	8.7	130	47	92	13	43	78
20	26	9.7	8.9	10	9.6	8.7	103	59	116	12	54	52
21	26	11	8.8	10	9.6	8.6	91	60	64	18	63	40
22	26	8.2	9.0	11	9.6	8.7	80	53	8.8	9.6	66	53
23	26	7.6	6.1	10	9.9	8.8	71	45	8.6	21	61	52
24	26	8.1	9.8	10	9.7	9.0	126	43	14	72	70	37
25	27	7.9	12	10	9.6	9.0	313	35	44	31	95	35
26	22	12	9.7	10	9.5	9.0	172	32	51	12	93	22
27	7.9	9.7	9.0	10	9.6	9.0	115	33	26	9.7	42	9.1
28	5.1	9.0	9.0	10	9.6	9.1	114	38	9.0	9.1	9.8	11
29	17	8.9	9.0	9.7	---	9.0	125	34	19	9.0	9.7	13
30	27	8.6	6.9	9.6	---	9.2	135	32	45	22	9.3	21
31	27	---	9.5	9.6	---	11	---	33	---	19	28	---
TOTAL	1056.1	345.7	276.7	306.5	270.1	282.3	5190.2	1959	1070.4	555.4	1357.4	1078.9
MEAN	34.1	11.5	8.93	9.89	9.65	9.11	173	63.2	35.7	17.9	43.8	36.0
MAX	84	27	12	11	9.9	12	767	185	116	72	278	119
MIN	5.1	6.2	6.1	9.5	9.2	7.6	8.2	32	8.6	7.4	9.3	8.9

CAL YR 1986 TOTAL 32921.1 MEAN 90.2 MAX 530 MIN 5.1
WTR YR 1987 TOTAL 13748.7 MEAN 37.7 MAX 767 MIN 5.1

01396800 SPRUCE RUN AT CLINTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-62, 1967 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1968 to September 1969, January 1971 to September 1980.
SUSPENDED-SEDIMENT DISCHARGE: October 1960 to April 1961.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
28...	1045	3.2	168	7.3	14.0	9.0	88	E1.7	<20	5
MAR 1987										
05...	1000	9.7	186	8.1	2.5	12.6	91	E1.9	<20	<2
26...	1315	9.0	162	8.0	11.5	10.5	97	<0.9	<20	2
JUN										
17...	1015	31	173	7.7	19.5	8.0	88	E1.7	50	130
JUL										
27...	1000	9.7	175	7.9	21.5	9.0	103	E1.3	<20	17
AUG										
27...	1300	14	154	7.4	18.5	8.1	87	E1.3	140	240

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
28...	61	15	5.7	7.7	1.6	45	17	12	<0.1
MAR 1987									
05...	58	14	5.5	7.9	1.2	40	20	12	0.1
26...	63	15	6.2	8.3	1.4	44	17	14	<0.1
JUN									
17...	57	14	5.4	8.0	1.3	39	17	11	<0.1
JUL									
27...	59	14	5.8	8.4	1.5	44	17	12	0.2
AUG									
27...	56	14	5.1	7.8	1.6	40	18	12	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
28...	5.5	91	0.026	0.12	0.18	0.87	0.99	0.030	3.1
MAR 1987									
05...	7.6	92	0.012	0.60	0.08	0.33	0.93	<0.020	2.3
26...	8.2	96	0.012	0.58	0.05	0.53	1.1	<0.020	3.4
JUN									
17...	4.2	84	0.014	0.42	0.38	0.58	1.0	0.048	4.6
JUL									
27...	5.2	90	0.009	0.30	0.09	0.60	0.90	<0.020	3.2
AUG									
27...	4.8	87	0.009	0.13	0.11	0.53	0.66	0.020	2.8

01396800 SPRUCE RUN AT CLINTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 28...	1045	<0.5	10	<1	<10	40	<1	<10	7

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 28...	460	6	420	0.10	2	<1	240	1

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ

LOCATION.--Lat 40°34'21", long 74°52'10", Hunterdon County, Hydrologic Unit 02030105, on right bank at downstream side of bridge on Stanton Road at Stanton Station, 0.4 mi upstream from Prescott Brook, and 1.4 mi west of Stanton.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--July 1903 to December 1906, July 1919 to current year. Monthly discharge only for some periods published in WSP 1302.

REVISED RECORDS.--WSP 561: Drainage area. WSP 1552: 1904, 1922-24(M), 1928-29(M), 1933-35(M).

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1925, nonrecording gage on downstream side of highway bridge at same site and datum.

REMARKS.--Records good. Flow regulated by Spruce Run Reservoir since September 1963 (see Raritan River basin, reservoirs in). Occasional regulation at low flows by ponds above station. Water diverted by Hamden Pumping Station, 4.0 mi upstream, into Round Valley Reservoir since February 1966 (see Raritan River basin, diversions).

AVERAGE DISCHARGE.--71 years (water years 1904-06, 1920-87), 245 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s, Aug. 19, 1955, gage height, 15.22 ft, from rating curve extended above 6,400 ft^3/s on basis of computation of flow over Clinton Dam, 6.5 mi upstream, at gage height 10.72 ft, contracted-opening measurement 1.7 mi downstream, and slope-area measurement 0.4 mi downstream at gage height 15.22 ft, adjusted to present site; minimum, 9 ft^3/s, Nov. 7, 1931; minimum daily, 12 ft^3/s, Oct. 18, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,380 ft^3/s, Apr. 4, gage height, 9.11 ft; minimum daily, 58 ft^3/s, Mar. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	80	207	231	176	780	608	267	123	119	78	150
2	131	83	246	319	168	865	237	249	135	145	110	106
3	113	82	1300	286	198	539	221	275	147	160	96	102
4	133	81	496	244	223	387	2730	510	143	111	87	117
5	134	88	334	215	194	314	2040	464	202	84	150	86
6	115	153	279	202	175	285	1220	373	147	77	447	137
7	113	117	252	201	177	331	990	311	113	76	173	151
8	118	148	235	199	180	443	766	271	124	117	117	186
9	118	177	336	184	178	403	612	254	127	176	104	366
10	114	123	472	194	159	311	525	239	135	147	870	161
11	85	152	335	236	162	258	382	218	94	94	310	116
12	83	254	391	213	159	251	350	219	93	89	168	103
13	85	140	251	188	153	240	422	195	101	207	129	439
14	98	111	209	182	144	228	363	183	98	156	113	808
15	82	100	206	206	138	216	332	218	100	300	107	277
16	75	97	201	125	132	204	359	226	125	142	100	191
17	84	94	198	130	153	191	464	184	99	107	102	208
18	83	92	485	202	136	136	553	180	109	97	121	559
19	81	272	653	300	131	131	422	207	140	92	118	368
20	80	197	329	278	127	125	355	226	168	91	130	270
21	78	1390	273	235	124	58	322	227	150	100	136	206
22	78	370	243	220	126	59	299	194	125	83	148	212
23	77	230	224	223	147	102	272	175	112	82	138	196
24	77	219	221	202	139	103	374	168	85	117	137	165
25	75	196	1250	e190	133	100	914	156	106	166	160	155
26	93	686	538	e192	123	98	493	147	115	103	164	132
27	89	966	379	e185	131	94	372	145	119	156	175	116
28	76	371	325	e165	130	66	364	149	99	89	155	111
29	70	279	288	199	---	64	386	141	82	78	208	109
30	83	236	268	197	---	101	367	131	100	81	124	115
31	81	---	251	182	---	661	---	127	---	102	106	---
TOTAL	2940	7584	11675	6525	4316	8144	18114	7029	3616	3744	5281	6418
MEAN	94.8	253	377	210	154	263	604	227	121	121	170	214
MAX	138	1390	1300	319	223	865	2730	510	202	300	870	808
MIN	70	80	198	125	123	58	221	127	82	76	78	86

CAL YR 1986 TOTAL 106927 MEAN 293 MAX 2290 MIN 70
WTR YR 1987 TOTAL 85386 MEAN 234 MAX 2730 MIN 58

e Estimated

01397400 SOUTH BRANCH RARITAN RIVER AT THREE BRIDGES, NJ

LOCATION.--Lat 40°31'01", long 74°48'12", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 0.4 mi northeast of Voorhees Corner, 1.3 mi downstream of Bushkill Brook, and 2.2 mi southeast of Darts Mills.

DRAINAGE AREA.--181 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
09...	1400	E132	260	7.8	16.5	9.7	99	<0.9	330	170
FEB 1987										
10...	1230	E179	350	7.7	1.0	13.4	95	E1.5	50	23
MAR										
18...	1045	E90	224	8.7	6.5	13.1	107	E1.2	<20	13
MAY										
28...	1200	E160	222	8.0	19.0	9.6	104	E1.3	130	130
JUL										
06...	1215	E92	289	7.9	25.0	9.4	113	<1.0	330	130
AUG										
05...	1230	E103	328	8.3	27.0	9.0	114	E2.3	1100	240

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
09...	92	22	8.9	15	2.6	70	24	16	0.1
FEB 1987									
10...	89	21	8.9	24	1.7	57	23	45	<0.1
MAR									
18...	84	20	8.3	15	1.5	59	23	21	0.1
MAY									
28...	86	20	8.7	10	1.6	65	18	18	<0.1
JUL									
06...	90	21	9.2	15	2.1	71	22	25	<0.1
AUG									
05...	110	27	11	18	3.9	88	34	25	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
09...	8.5	140	0.034	1.04	0.10	0.61	1.7	0.170	3.2
FEB 1987									
10...	11	170	0.013	1.96	0.23	0.41	2.4	0.072	3.6
MAR									
18...	8.7	130	E0.030	1.56	0.13	0.32	1.9	0.062	1.7
MAY									
28...	9.3	120	0.067	1.50	0.14	0.70	2.2	0.106	2.8
JUL									
06...	9.1	150	0.042	1.51	0.14	0.60	2.1	0.200	3.2
AUG									
05...	6.1	180	0.017	1.40	0.09	0.81	2.2	0.220	3.1

01397400 SOUTH BRANCH RARITAN RIVER AT THREE BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 09...	1400	--	130	0.1	0.1	--	--	5	--	--	--	<1
MAY 1987 28...	1200	<0.5	--	--	--	<10	<1	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 09...	--	3	10	--	3	--	2600	--	<10	--	460
MAY 1987 28...	<10	--	--	4	--	250	--	<5	--	20	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 09...	--	0.02	--	<10	--	<1	--	40	--	<1	<1.0
MAY 1987 28...	<0.10	--	2	--	<1	--	10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 09...	<0.1	<1.0	0.1	0.4	1.5	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
MAY 1987 28...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 09...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
MAY 1987 28...	--	--	--	--	--	--	--	--	--	--	--

01398000 NESHANIC RIVER AT REAVILLE, NJ

LOCATION.--Lat 40°28'18", long 74°49'42", Hunterdon County, Hydrologic Unit 02030105, on left bank 50 ft downstream from bridge on Everitts Road, 0.6 mi southwest of Reaville, 1.5 mi downstream from Third Neshanic River, and 2.2 mi upstream from Back Brook.

DRAINAGE AREA.--25.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1930 to current year.

REVISED RECORDS.--WSP 1552: 1933, 1934(M), 1936(M), 1938, 1940(M), 1942(M), 1945-46, 1951, 1952(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 26, 1935. Datum of gage is 109.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--57 years, 36.5 ft^3/s, 19.27 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,900 ft^3/s, Aug. 28, 1971, gage height, 13.84 ft, from high-water mark in gage house, from rating curve extended above 1,700 ft^3/s on basis of slope-area measurement 0.7 mi downstream (adjusted to present site) at gage height 11.90 ft; no flow many days 1965, 1966, and part of July 17, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0145	1,840	7.48	Dec. 25	0430	2,940	8.73
Nov. 26	2200	e4,500	unknown	Apr. 4	1515	e4,300	unknown
Dec. 3	0130	1,660	7.19	July 14	2000	3,280	9.05

Minimum discharge, 0.14 ft^3/s, June 26, gage height, 2.07 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.0	36	31	20	646	75	25	3.6	30	6.2	2.5
2	1.4	1.3	137	91	26	285	49	23	8.8	53	6.0	2.1
3	1.3	1.2	621	79	50	136	39	22	4.9	83	11	1.9
4	2.4	1.4	102	55	65	91	1640	49	74	21	5.9	1.6
5	1.7	3.3	65	42	47	70	212	42	66	14	5.4	1.6
6	1.1	17	49	36	39	62	258	31	21	10	11	1.8
7	.86	5.6	42	35	47	64	142	26	15	8.4	5.5	2.9
8	.87	20	36	33	49	58	90	22	12	65	4.5	5.4
9	.98	14	199	29	42	49	69	19	13	18	4.2	7.3
10	.87	8.5	124	40	32	37	55	17	9.6	13	81	2.9
11	.78	41	71	67	30	30	45	15	7.0	10	12	2.2
12	.87	33	78	48	28	29	40	13	6.8	95	7.6	2.0
13	1.2	16	54	43	23	28	36	12	6.8	33	5.8	21
14	4.2	11	38	40	21	25	30	11	5.6	832	4.8	8.0
15	2.0	8.8	35	46	15	22	27	14	4.5	215	4.2	4.1
16	1.2	8.0	32	38	16	20	26	10	3.8	68	3.7	3.3
17	1.1	7.0	32	31	16	19	76	8.8	3.2	42	4.4	4.9
18	1.0	8.4	265	58	15	17	55	8.0	2.9	30	3.7	11
19	.94	139	140	147	13	16	39	9.6	2.8	23	2.8	6.4
20	.95	e86	72	97	12	15	33	11	2.7	18	2.5	4.7
21	1.0	e452	55	64	12	15	30	11	2.8	15	2.2	3.9
22	1.0	66	42	46	13	14	26	8.1	17	12	2.8	13
23	1.1	45	36	54	19	12	23	8.2	7.9	9.7	2.5	12
24	1.0	51	38	38	18	12	36	7.5	4.2	8.5	1.8	5.9
25	1.1	37	904	29	17	11	112	6.4	2.9	7.4	1.6	4.3
26	5.4	902	118	27	18	11	48	6.0	3.2	105	1.7	3.4
27	4.2	342	78	23	19	10	38	5.9	32	22	13	2.8
28	2.3	88	60	20	25	15	41	5.9	7.0	12	10	2.5
29	1.5	62	49	19	---	11	41	5.1	4.4	8.8	6.6	2.3
30	1.1	45	44	22	---	13	31	4.5	3.3	7.3	3.5	6.4
31	1.1	---	37	25	---	222	---	3.9	---	8.5	2.6	---
TOTAL	47.72	2521.5	3689	1453	747	2065	3462	460.9	358.7	1897.6	240.5	154.1
MEAN	1.54	84.0	119	46.9	26.7	66.6	115	14.9	12.0	61.2	7.76	5.14
MAX	5.4	902	904	147	65	646	1640	49	74	832	81	21
MIN	.78	1.0	32	19	12	10	23	3.9	2.7	7.3	1.6	1.6
CFSM	.06	3.27	4.63	1.82	1.04	2.59	4.49	.58	.47	2.38	.30	.20
IN.	.07	3.65	5.34	2.10	1.08	2.99	5.01	.67	.52	2.75	.35	.22

CAL YR 1986 TOTAL 15790.65 MEAN 43.3 MAX 936 MIN .49 CFSM 1.68 IN. 22.85
WTR YR 1987 TOTAL 17096.90 MEAN 46.8 MAX 1640 MIN .78 CFSM 1.82 IN. 24.74

e Estimated

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1962, 1979 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
02...	1330	1.5	411	8.7	17.5	14.0	148	E1.4	170	130
FEB 1987										
17...	1345	20	355	8.2	0.5	16.8	117	2.9	<20	7
MAR										
18...	1345	17	554	9.1	9.0	11.1	96	<0.9	<20	7
MAY										
28...	1330	5.7	376	9.5	22.5	10.6	122	E2.2	50	130
JUL										
06...	1345	10	317	8.2	24.5	11.5	138	0.9	790	920
AUG										
05...	1345	4.6	405	9.1	27.5	14.8	190	E1.4	790	540

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
02...	160	42	14	18	4.2	108	66	21	0.1
FEB 1987									
17...	100	27	8.8	18	1.6	41	47	31	<0.1
MAR									
18...	160	44	12	31	1.6	41	50	97	<0.1
MAY									
28...	170	45	13	21	1.9	66	64	46	<0.1
JUL									
06...	110	27	9.2	14	2.3	57	39	27	<0.1
AUG									
05...	150	39	12	20	2.7	71	65	35	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
02...	4.5	230	0.010	<0.05	0.16	0.64	--	0.160	5.6
FEB 1987									
17...	11	170	0.014	2.88	0.08	0.28	3.2	0.030	2.2
MAR									
18...	10	270	E0.022	2.01	0.14	0.28	2.3	0.039	1.2
MAY									
28...	6.0	240	0.042	1.20	0.08	0.70	1.9	0.053	3.1
JUL									
06...	11	160	0.046	2.81	0.10	0.54	3.4	0.090	3.7
AUG									
05...	3.1	220	0.035	1.17	0.11	0.83	2.0	0.070	3.8

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 02...	1330	--	0.4	8.3	--	--	14	--	--	--	<1
MAY 1987 28...	1330	<0.5	--	--	<10	1	--	<10	20	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 02...	--	20	20	--	20	--	17000	--	20	--	670
MAY 1987 28...	10	--	--	2	--	80	--	<5	--	<10	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	NIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 02...	--	0.02	--	30	--	<1	--	120	--	3	<1.0
MAY 1987 28...	<0.10	--	2	--	<1	--	20	--	3	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 02...	<0.1	3.0	0.3	0.7	0.5	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
MAY 1987 28...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 02...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
MAY 1987 28...	--	--	--	--	--	--	--	--	--	--	--

01398045 BACK BROOK TRIBUTARY NEAR RINGOES, NJ

LOCATION.--Lat 40°25'41", long 74°49'52", Hunterdon County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Wertsville Road, 2.1 mi east of Ringoes, 1.3 mi upstream from Back Brook, and 2.3 mi southwest of Wertsville.

DRAINAGE AREA.--1.98 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 161.6 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except below 1.0 ft^3/s, which are poor.

AVERAGE DISCHARGE.--10 years, 4.33 ft^3/s, 29.70 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft^3/s, Aug. 3, 1979, gage height, 5.05 ft, from rating curve extended above 200 ft^3/s on basis of contracted-opening measurement at gage height 4.64 ft; no flow July 19, 1986, Aug. 26, 31, Sept. 1-6, 1987

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	1900	*983	*4.30	Apr. 4	1215	844	3.91
Dec. 25	0230	626	3.32	July 2	1945	585	3.20

No flow Aug. 26, 31, Sept. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.10	1.1	1.4	1.8	75	5.3	1.4	.22	10	.25	.00
2	.08	.11	40	12	2.9	37	2.7	1.3	.22	39	.24	.00
3	.10	.10	54	5.7	8.6	14	2.0	1.2	.22	12	.23	.00
4	.09	.10	4.3	3.1	8.4	7.6	149	5.4	14	1.9	.22	.00
5	.08	.28	2.3	2.0	4.5	5.4	15	3.9	5.6	1.1	.21	.00
6	.09	1.3	1.6	1.7	3.5	7.9	28	2.1	.85	.89	.23	.00
7	.10	.28	1.4	1.8	4.9	12	12	1.5	.63	.80	.18	.01
8	.13	2.0	1.3	1.8	5.3	7.3	5.1	1.2	.59	4.8	.16	.06
9	.13	1.2	29	1.6	3.9	4.2	3.1	1.1	.57	1.2	.58	.04
10	.12	.68	7.5	4.2	2.3	2.2	2.2	.94	.48	.96	8.5	.01
11	.13	6.0	3.3	6.4	2.1	1.7	1.7	.83	.38	.83	.21	.01
12	.13	3.3	4.3	3.3	2.0	1.7	1.4	.76	.35	.77	.16	.01
13	.16	1.7	2.3	3.1	2.2	1.9	1.2	.64	.46	.73	.13	3.0
14	.30	1.1	1.5	3.8	1.6	1.6	1.1	.63	.39	47	.11	.06
15	.18	.76	1.4	6.2	1.6	1.5	1.0	.68	.30	11	.09	.03
16	.18	.63	1.4	2.7	1.3	1.3	.95	.59	.25	2.8	.07	.02
17	.18	.48	1.4	1.8	1.2	1.2	8.2	.54	.21	1.6	.06	.08
18	.19	3.5	40	6.6	1.2	1.1	3.8	.47	.19	1.1	.05	.81
19	.18	13	8.2	25	1.4	1.1	2.0	.56	.17	.89	.04	.10
20	.16	33	3.2	9.1	1.4	1.0	1.5	.63	.17	.78	.04	.08
21	.15	27	2.2	5.0	1.4	1.0	1.3	.68	.19	.68	.03	.07
22	.16	8.2	1.6	7.6	1.3	.97	1.1	.50	2.9	.59	.03	.07
23	.14	6.4	1.5	5.8	2.9	.92	1.0	.49	.68	.52	.02	.07
24	.10	8.0	12	2.5	1.4	.87	13	.46	.53	.48	.02	.05
25	.11	6.5	94	2.4	1.7	.84	19	.38	.48	.44	.01	.04
26	.19	79	5.3	2.3	1.8	.84	3.8	.34	.40	4.7	.00	.04
27	.12	15	3.1	2.2	1.7	.80	2.2	.32	.49	1.1	.07	.04
28	.10	3.5	2.3	2.8	2.7	1.1	3.0	.31	.36	.42	.03	.04
29	.10	2.0	1.9	2.3	---	.92	3.7	.28	.27	.34	.02	.04
30	.11	1.5	1.7	2.5	---	1.3	1.9	.26	.23	.30	.01	.06
31	.10	---	1.5	2.5	---	29	---	.24	---	.29	.00	---
TOTAL	4.16	226.72	336.6	141.2	77.0	225.26	297.25	30.63	32.78	150.01	12.00	4.84
MEAN	.13	7.56	10.9	4.55	2.75	7.27	9.91	.99	1.09	4.84	.39	.16
MAX	.30	79	94	25	8.6	75	149	5.4	14	47	8.5	3.0
MIN	.07	.10	1.1	1.4	1.2	.80	.95	.24	.17	.29	.00	.00
CFSM	.07	3.82	5.48	2.30	1.39	3.67	5.00	.50	.55	2.44	.20	.08
IN.	.08	4.26	6.32	2.65	1.45	4.23	5.58	.58	.62	2.82	.23	.09

CAL YR 1986 TOTAL 1370.51 MEAN 3.75 MAX 109 MIN .01 CFSM 1.90 IN. 25.74
WTR YR 1987 TOTAL 1538.42 MEAN 4.21 MAX 149 MIN .00 CFSM 2.13 IN. 28.90

01398107 HOLLAND BROOK AT READINGTON, NJ

LOCATION.--Lat 40°33'30", long 74°43'50", Somerset County, Hydrologic Unit 02030105, on right bank 15 ft downstream from bridge on Old York Road, 0.9 mi southeast of Readington, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--9.00 mi^2.

PERIOD OF RECORD.--June 1978 to current year.

REVISED RECORDS.--WDR NJ-80-1: 1978, 1979(P). WDR NJ-82-1: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete parking-block control. Datum of gage is 77.65 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--Records good except for period of estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--9 years, 15.7 ft^3/s, 23.12 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft^3/s, July 7, 1984, gage height, 8.08 ft; minimum, 0.22 ft^3/s, Aug. 28, 1980, gage height, 1.61 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0145	663	5.50	Dec. 25	0615	487	4.72
Nov. 26	2215	740	5.83	Apr. 4	1515	*858	*6.32
Dec. 3	0230	568	5.09				

Minimum discharge, 1.2 ft^3/s, Oct. 10, 11, 12, 13, gage height 1.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.9	15	12	9.4	159	22	10	2.4	3.8	9.3	2.7
2	1.8	2.0	52	33	11	86	17	9.7	5.5	10	7.5	2.3
3	1.8	1.8	226	29	16	47	14	10	3.0	24	7.4	2.0
4	1.8	2.0	48	23	23	31	351	15	25	9.1	5.7	1.9
5	1.8	3.0	28	19	21	24	88	15	21	6.8	5.3	1.8
6	1.6	10	21	16	19	20	71	14	10	5.3	7.1	1.9
7	1.4	5.2	17	15	20	18	55	13	7.5	4.7	4.7	2.4
8	1.4	15	14	13	19	18	37	12	6.0	12	4.2	3.3
9	1.4	13	51	12	17	16	28	10	5.1	e14	4.3	4.6
10	1.3	9.6	44	14	14	13	22	9.0	4.1	e9.0	35	2.5
11	1.2	28	29	19	13	11	18	8.0	3.6	e6.7	9.1	2.2
12	1.2	22	27	17	13	11	16	7.4	3.6	e6.1	7.1	2.1
13	1.4	15	20	16	11	11	14	6.3	3.6	5.4	5.8	24
14	3.0	11	16	15	10	9.5	12	5.8	3.2	26	5.0	8.6
15	1.9	9.3	15	15	7.7	8.8	11	7.4	3.0	20	4.4	6.3
16	1.6	8.5	13	13	8.0	8.0	10	5.7	2.7	13	3.9	5.3
17	1.6	7.6	12	12	8.0	7.5	15	5.1	2.4	9.6	4.5	6.2
18	1.5	7.9	70	17	7.5	6.9	14	5.8	2.0	7.6	3.6	8.0
19	1.4	63	50	33	6.5	6.6	12	6.3	2.0	6.2	3.0	8.8
20	1.4	47	29	31	6.0	6.2	11	5.9	2.0	5.4	2.8	8.0
21	1.6	170	22	25	6.0	6.0	10	5.6	4.0	4.6	2.5	7.2
22	1.6	35	17	21	6.0	5.5	9.6	4.7	17	4.0	2.8	6.6
23	1.6	23	15	19	7.7	5.1	8.8	4.8	5.3	3.6	2.5	6.0
24	1.6	21	15	13	6.9	4.7	11	4.3	3.5	6.6	2.1	5.0
25	1.6	16	216	13	6.7	4.5	25	4.1	3.0	11	2.0	4.4
26	3.1	201	53	12	7.1	4.5	17	3.9	2.8	23	2.0	4.0
27	3.0	122	32	10	7.8	4.3	15	3.8	18	11	5.7	3.7
28	2.2	42	24	9.3	8.7	5.3	15	3.6	6.2	7.5	4.7	3.4
29	2.0	27	19	9.0	---	4.3	14	3.3	4.6	5.5	4.7	3.3
30	2.0	20	17	9.9	---	4.6	12	3.0	3.8	32	2.9	4.6
31	1.9	---	14	10	---	29	---	2.7	---	13	2.5	---
TOTAL	54.5	959.8	1241	525.2	317.0	596.3	975.4	225.2	185.9	326.5	174.1	153.1
MEAN	1.76	32.0	40.0	16.9	11.3	19.2	32.5	7.26	6.20	10.5	5.62	5.10
MAX	3.1	201	226	33	23	159	351	15	25	32	35	24
MIN	1.2	1.8	12	9.0	6.0	4.3	8.8	2.7	2.0	3.6	2.0	1.8
CFSM	.20	3.55	4.45	1.88	1.26	2.14	3.61	.81	.69	1.17	.62	.57
IN.	.23	3.97	5.13	2.17	1.31	2.46	4.03	.93	.77	1.35	.72	.63

CAL YR 1986 TOTAL 6229.7 MEAN 17.1 MAX 320 MIN 1.1 CFSM 1.90 IN. 25.74
WTR YR 1987 TOTAL 5734.0 MEAN 15.7 MAX 351 MIN 1.2 CFSM 1.75 IN. 23.69

e Estimated

01398260 NORTH BRANCH RARITAN RIVER NEAR CHESTER, NJ

LOCATION.--Lat 40°37'34", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24, 0.8 mi upstream from Burnett Brook, and 3.8 mi east of Chester.

DRAINAGE AREA.--7.57 mi^2.

PERIOD OF RECORD.--Water years 1964-65, 1967, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epaidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
12...	1215	E5.4	199	7.6	7.0	11.3	93	E2.0	230	350
MAR 1987										
02...	1030	E16	229	7.8	3.0	15.2	116	E1.7	790	<2400
31...	1215	E19	151	7.2	12.0	10.5	101	E2.0	5400	>2400
JUN										
09...	1200	E4.6	281	7.6	18.0	7.8	84	4.3	270	1600
JUL										
13...	1045	E6.8	196	7.8	21.5	7.4	85	4.9	3500	>2400
AUG										
10...	1045	E11	154	7.5	19.5	8.4	94	2.9	920	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
12...	50	12	4.8	11	1.5	35	17	22	<0.1
MAR 1987									
02...	40	9.9	3.6	20	1.3	21	15	32	<0.1
31...	32	8.1	2.8	17	1.4	20	11	27	0.1
JUN									
09...	73	18	6.9	17	2.4	47	17	30	<0.1
JUL									
13...	51	13	4.6	15	1.6	29	16	24	<0.1
AUG									
10...	30	7.4	2.7	7.5	1.6	25	12	16	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
12...	14	100	0.030	0.72	0.67	1.0	1.7	0.201	6.0
MAR 1987									
02...	10	100	0.010	0.74	0.44	0.90	1.6	0.131	--
31...	8.5	88	0.028	0.51	0.17	1.8	2.3	0.443	18
JUN									
09...	19	140	0.270	2.09	1.08	1.5	3.6	0.568	2.6
JUL									
13...	13	100	0.185	1.20	0.35	1.5	2.8	0.430	7.8
AUG									
10...	8.2	70	0.046	0.67	0.41	1.1	1.8	0.220	11

01398260 NORTH BRANCH RARITAN RIVER NEAR CHESTER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
NOV 1986 12...	1215	<0.5	60	<1	<10	30	<1	<10	6

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
NOV 1986 12...	340	<5	20	<0.10	2	<1	<10	5

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ

LOCATION.--Lat 40°42'30", long 74°38'11", Somerset County, Hydrologic Unit 02030105, on left bank 75 ft upstream from Ravine Lake Dam, 1.6 mi north of Far Hills, and 2.3 mi upstream from Peapack Brook.
DRAINAGE AREA.--26.2 mi^2.
PERIOD OF RECORD.--October 1921 to September 1975, October 1977 to current year. Operated as crest-stage gage, water years 1976-77. Monthly discharge only for some periods, published in WSP 1302.
REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23, 1924-25(M), 1935(M). WSP 1902: 1954.
GAGE.--Water-stage recorder and crest-stage gage above masonry dam. Datum of gage is 224.49 ft above National Geodetic Vertical Datum of 1929 (New Jersey Geological Survey bench mark). Prior to June 18, 1925, nonrecording gage in stilling box at left end of dam at same datum.
REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Records given herein include diversion by small turbine at dam (average discharge, 3.0 ft^3/s) and returned to river 1,000 ft downstream from Ravine Lake Dam. Turbine operating from Oct. 1-13, and Apr. 20 to Sept. 30. Flow regulated occasionally by operation of waste gate in dam (no gate opening this year). Recording rain gage, with telemeter, 500 ft downstream of station. Several measurements of water temperature were made during the year. Gage-height telemeter at station.
COOPERATION.--Gage-height record collected in cooperation with Somerset County.
AVERAGE DISCHARGE.--64 years (water years 1922-75, 1978-87), 48.1 ft^3/s, 24.93 in./yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,390 ft^3/s, Aug. 28, 1971, gage height, 7.28 ft, from rating curve extended above 2,000 ft^3/s on basis of computation of peak flow over dam; no flow at times when Ravine Lake was filling.
EXTREMES OUTSIDE PERIOD OF RECORD.--Stage of 7.6 ft, from floodmark, occurred July 23, 1919, discharge about 7,000 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0130	1,110	3.84	Dec. 25	0500	980	3.70
Nov. 26	unknown	1,080	3.81	Apr. 4	1445	*1,920	*4.60
Dec. 2	2315	738	3.41	Sept. 13	1205	1,080	3.81

Minimum daily discharge, 11 ft^3/s, Oct. 7, 8, 9, 11, 12, 13, 17, Aug. 21, 24, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	e17	e59	68	44	245	96	49	26	22	14	27
2	14	e17	110	112	45	161	64	49	40	54	14	21
3	14	e17	e374	87	53	98	59	57	33	164	17	16
4	24	e16	86	70	58	80	687	113	40	48	19	12
5	18	e18	71	63	49	70	212	97	58	43	21	12
6	14	e33	63	59	45	69	229	72	32	38	65	13
7	11	e24	60	58	45	88	197	63	27	36	27	28
8	11	45	57	57	46	94	178	53	26	50	18	60
9	11	40	88	54	47	83	150	49	24	94	16	72
10	12	26	90	57	41	70	132	46	21	52	107	35
11	11	51	62	71	41	64	129	43	20	47	34	24
12	11	51	61	59	41	64	119	42	20	53	24	21
13	11	30	54	53	40	63	125	41	22	66	21	372
14	16	23	49	53	37	61	116	40	22	50	18	122
15	16	20	49	68	33	58	100	47	18	65	17	61
16	12	20	49	72	34	56	90	43	17	30	16	54
17	11	19	49	53	43	54	124	40	16	23	17	67
18	12	19	159	63	41	53	150	39	16	20	17	141
19	12	61	102	94	37	51	92	54	16	23	14	99
20	12	55	73	74	35	52	75	46	16	40	12	64
21	13	324	65	58	35	49	64	45	25	24	11	53
22	14	67	60	54	35	48	57	40	39	19	12	54
23	13	55	58	63	41	50	55	38	32	17	14	55
24	e15	e65	58	45	37	46	71	37	22	19	11	48
25	e15	e55	346	45	36	45	156	34	19	21	11	46
26	e22	e251	111	51	35	46	69	32	18	46	11	44
27	e23	e286	99	45	36	44	55	32	40	34	31	43
28	e16	e92	89	43	37	51	64	33	33	20	42	42
29	e14	e82	82	51	---	47	61	31	25	16	36	41
30	e17	e68	78	52	---	46	54	28	21	15	20	47
31	e17	---	72	53	---	244	---	27	---	15	15	---
TOTAL	446	1947	2883	1905	1147	2350	3830	1460	784	1264	722	1794
MEAN	14.4	64.9	93.0	61.5	41.0	75.8	128	47.1	26.1	40.8	23.3	59.8
MAX	24	324	374	112	58	245	687	113	58	164	107	372
MIN	11	16	49	43	33	44	54	27	16	15	11	12
CFSM	.55	2.48	3.55	2.35	1.56	2.89	4.87	1.80	.99	1.56	.89	2.28
IN.	.63	2.76	4.09	2.70	1.63	3.34	5.44	2.07	1.11	1.79	1.03	2.55

CAL YR 1986 TOTAL 19200 MEAN 52.6 MAX 619 MIN 11 CFSM 2.01 IN. 27.25
WTR YR 1987 TOTAL 20532 MEAN 56.3 MAX 687 MIN 11 CFSM 2.15 IN. 29.14

e Estimated

01399120 NORTH BRANCH RARITAN RIVER AT BURNT MILLS, NJ

LOCATION.--Lat 40°38'09", long 74°40'56", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road in Burnt Mills, 0.1 mi upstream from Lamington River, and 4.0 mi southwest of Far Hills.

DRAINAGE AREA.--63.8 mi^2.

PERIOD OF RECORD.--Water years 1964, 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
12...	1000	E231	229	6.5	7.0	11.4	94	E2.0	1700	<2400
MAR 1987										
05...	1220	E185	214	7.9	3.5	13.4	100	E1.4	130	49
APR										
06...	1200	E805	149	7.2	8.0	11.7	100	E2.0	2400	>2400
JUN										
15...	1200	E37	251	8.8	23.5	11.7	139	E1.8	790	180
JUL										
22...	1315	E49	--	8.8	27.0	8.4	--	E1.5	2400	>2400
AUG										
25...	1300	E17	--	8.3	17.0	10.2	--	E1.8	1100	540

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
12...	64	16	5.9	11	1.9	45	19	22	<0.1
MAR 1987									
05...	64	16	5.8	15	1.0	38	19	28	<0.1
APR									
06...	47	12	4.1	11	1.3	28	15	16	<0.1
JUN									
15...	81	20	7.5	13	1.7	58	18	26	0.1
JUL									
22...	80	20	7.2	14	2.2	58	15	20	0.1
AUG									
25...	97	24	9.0	15	2.2	72	21	23	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
12...	12	110	0.020	0.72	0.12	0.73	1.5	0.143	5.4
MAR 1987									
05...	12	120	0.016	0.89	0.07	0.53	1.4	0.044	2.0
APR									
06...	10	86	0.024	0.57	0.11	0.83	1.4	0.119	7.2
JUN									
15...	13	130	0.030	0.88	<0.05	0.58	1.5	0.096	2.6
JUL									
22...	8.3	120	0.017	0.69	<0.05	0.63	1.3	0.130	3.7
AUG									
25...	13	150	0.015	0.85	0.10	0.66	1.5	0.160	3.4

01399120 NORTH BRANCH RARITAN RIVER AT BURNT MILLS, NJ

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1986											
12...	1000	<0.5	--	--	--	<1	--	<10	10	<1	--
12...	1000	--	1400	0.2	12	--	4	--	--	--	1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1986											
12...	<10	--	--	11	--	760	--	6	--	60	--
12...	--	20	10	--	20	--	15000	--	40	--	300

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
12...	0.10	--	2	--	<1	--	20	--	<1	--	--
12...	--	0.15	--	20	--	<1	--	90	--	7	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	<0.1	<1.0	1.6	2.7	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1986											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	<0.1	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<1.00	<10	<0.1

01399190 LAMINGTON (BLACK) RIVER AT SUCCASUNNA, NJ

LOCATION.--Lat 40°51'03", long 74°38'02", Morris County, Hydrologic Unit 02030105, on right bank, 10 ft upstream from bridge on Righter Road, 0.7 mi south of Succasunna, and 0.4 mi upstream from Succasunna Brook.

DRAINAGE AREA.--7.37 mi^2.

PERIOD OF RECORD.--October 1976 to September 1987 (discontinued).

GAGE.--Water-stage recorder, crest-stage gage, and prefabricated concrete bumper-block control. Datum of gage is 692.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 11.5 ft^3/s, 21.19 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft^3/s, Jan. 24, 1979, gage height, 5.20 ft; minimum, 1.2 ft^3/s, Sept. 11, 12, 1980, gage height, 2.27 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0200	51	3.83	Apr. 4	1530	*123	*4.33
Dec. 3	0345	43	3.72	Sept. 13	1615	54	3.87
Dec. 25	0545	41	3.69				

Minimum daily discharge, 2.2 ft^3/s, Oct. 22, 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	2.5	12	14	9.0	17	24	13	e7.0	7.7	4.3	6.3
2	3.2	2.9	13	16	9.0	21	21	13	e8.2	9.2	4.5	5.5
3	4.0	2.8	32	16	9.3	19	18	14	e7.8	11	5.1	5.1
4	5.3	2.5	23	15	9.5	17	63	17	e9.0	8.1	4.4	4.8
5	5.4	2.9	20	13	9.2	15	71	16	8.8	7.0	9.0	4.6
6	4.4	5.5	17	13	8.8	15	65	15	8.0	6.0	16	5.0
7	3.4	4.4	16	12	8.4	16	52	14	7.4	5.3	11	7.6
8	3.1	6.0	14	12	8.2	17	43	13	6.9	11	8.7	11
9	2.9	6.2	16	11	8.2	17	34	13	6.4	11	7.7	13
10	2.5	5.3	17	11	8.0	16	28	12	6.0	8.9	14	10
11	2.4	7.5	16	12	7.8	15	25	11	5.8	7.9	10	8.4
12	2.5	7.4	15	12	7.8	15	24	10	6.0	14	8.2	7.6
13	2.6	5.8	14	11	7.9	14	23	9.9	6.4	9.2	7.2	29
14	3.4	4.8	12	11	7.6	14	21	9.7	6.4	11	6.5	37
15	3.2	4.5	12	12	7.5	13	20	11	5.9	12	6.1	32
16	3.0	4.4	11	12	7.4	13	19	10	5.5	9.1	5.9	22
17	2.9	4.1	11	11	7.0	12	20	10	5.3	7.7	5.4	21
18	2.6	3.9	17	12	7.1	12	22	9.8	5.2	6.9	4.9	27
19	2.9	6.7	18	13	7.0	11	21	11	5.1	9.2	4.6	22
20	2.8	7.9	16	14	6.9	11	19	11	5.2	9.5	4.4	18
21	2.3	31	15	12	6.8	11	17	10	5.5	7.9	4.2	15
22	2.2	19	13	17	6.7	11	16	10	5.8	6.9	4.2	13
23	2.2	17	12	14	7.6	11	15	9.8	5.5	6.1	4.3	11
24	2.2	17	12	12	7.4	11	16	9.7	5.2	5.7	4.1	10
25	2.3	13	30	11	7.0	10	20	9.4	5.0	5.4	3.7	10
26	3.3	20	24	10	6.8	10	18	8.9	4.9	7.5	3.6	9.4
27	3.7	25	21	9.9	6.7	10	16	8.4	7.2	7.3	6.2	9.0
28	3.3	20	18	9.5	6.6	11	15	8.3	6.4	6.1	12	8.2
29	3.1	17	17	9.1	---	10	15	e8.2	5.6	5.0	11	7.6
30	2.9	14	15	9.4	---	10	14	e7.7	5.0	4.7	8.5	8.7
31	2.5	---	14	9.7	---	25	---	e7.2	---	4.5	6.9	---
TOTAL	95.7	291.0	513	376.6	217.2	430	795	341.0	188.4	248.8	216.6	398.8
MEAN	3.09	9.70	16.5	12.1	7.76	13.9	26.5	11.0	6.28	8.03	6.99	13.3
MAX	5.4	31	32	17	9.5	25	71	17	9.0	14	16	37
MIN	2.2	2.5	11	9.1	6.6	10	14	7.2	4.9	4.5	3.6	4.6
CFSM	.42	1.32	2.25	1.65	1.05	1.88	3.60	1.49	.85	1.09	.95	1.80
IN.	.48	1.47	2.59	1.90	1.10	2.17	4.01	1.72	.95	1.26	1.09	2.01

CAL YR 1986 TOTAL 4050.8 MEAN 11.1 MAX 52 MIN 2.2 CFSM 1.51 IN. 20.44
WTR YR 1987 TOTAL 4112.1 MEAN 11.3 MAX 71 MIN 2.2 CFSM 1.53 IN. 20.75

e Estimated

01399200 LAMINGTON (BLACK) RIVER NEAR IRONIA, NJ

LOCATION.--Lat 40°50'07", long 74°38'40", Morris County, Hydrologic Unit 02030105, on left bank 15 ft upstream from bridge on Ironia Road, 1.0 mi below Succasunna Brook, 1.3 mi northwest of Ironia, and 4.4 mi northeast of Chester.

DRAINAGE AREA.--10.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to September 1987 (discontinued).

REVISED RECORDS.--WDR NJ-82-1: 1981(P).

GAGE.--Water-stage recorder and concrete block control. Datum of gage is 687.4 ft, above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Water for municipal supply pumped from wells upstream of gage by Morris County Municipal Utilities Authority. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--12 years, 19.0 ft^3/s, 23.67 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 389 ft^3/s, July 7, 1984, gage height, 5.15 ft; maximum gage height, 5.27 ft, Jan. 25, 1979; minimum daily discharge, 1.5 ft^3/s, Oct. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	2045	*165	*4.54	Sept. 14	0230	100	4.16

Minimum daily discharge, 3.3 ft^3/s, Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	3.6	17	18	e13	26	59	19	12	6.8	6.6	9.4
2	5.2	3.8	16	22	e12	49	34	19	13	13	6.6	8.6
3	5.9	3.8	58	23	e13	37	26	20	13	16	7.5	8.1
4	9.1	3.7	47	21	15	26	91	30	12	9.8	7.0	7.6
5	8.4	3.9	32	19	15	19	125	30	14	8.6	8.9	7.4
6	7.0	8.7	25	17	13	18	87	25	11	7.8	34	7.5
7	5.5	6.9	21	16	13	23	75	22	11	7.2	18	9.9
8	4.8	8.4	19	16	13	31	62	20	10	15	11	14
9	4.5	10	21	15	13	30	51	19	9.2	22	9.8	26
10	4.2	8.0	30	16	13	24	43	18	8.2	12	21	18
11	3.9	8.6	25	18	11	20	38	17	7.5	9.2	15	12
12	4.0	15	21	17	11	18	36	16	7.7	13	14	10
13	4.2	9.3	19	15	11	18	36	15	8.7	25	14	33
14	5.4	6.6	17	15	10	17	34	14	8.4	13	10	82
15	5.4	5.8	16	17	10	17	31	16	7.8	29	9.1	46
16	4.8	5.8	15	20	10	16	29	16	6.8	14	8.6	33
17	4.5	5.5	15	16	10	15	30	15	6.3	9.7	8.3	28
18	4.3	5.1	23	16	10	14	35	15	6.3	8.9	7.7	42
19	4.2	10	40	20	10	14	33	18	6.7	9.5	7.4	37
20	4.1	9.4	27	21	10	13	30	17	7.2	14	7.1	29
21	3.8	51	21	18	10	13	26	17	7.5	9.8	6.8	22
22	3.6	40	18	15	11	13	24	15	8.0	8.9	6.8	17
23	3.5	26	17	e23	11	13	22	15	8.2	8.2	6.9	15
24	3.4	24	16	e17	10	12	25	15	7.4	7.8	6.5	13
25	3.3	20	51	e16	9.4	12	35	14	7.0	7.5	5.8	12
26	4.3	24	46	e15	9.0	12	30	13	6.7	9.0	5.6	11
27	5.7	62	32	e14	8.8	11	25	12	8.9	9.6	8.4	10
28	5.4	38	26	e13	8.7	13	24	12	8.6	8.3	16	9.7
29	4.5	26	23	e12	---	12	24	11	7.7	7.3	22	8.9
30	4.1	20	21	e14	---	12	21	11	6.9	7.0	13	9.6
31	3.8	---	19	e15	---	47	---	12	---	6.8	9.7	---
TOTAL	150.2	472.9	794	530	313.9	615	1241	528	263.7	353.7	339.1	596.7
MEAN	4.85	15.8	25.6	17.1	11.2	19.8	41.4	17.0	8.79	11.4	10.9	19.9
MAX	9.1	62	58	23	15	49	125	30	14	29	34	82
MIN	3.3	3.6	15	12	8.7	11	21	11	6.3	6.8	5.6	7.4
CFSM	.44	1.45	2.35	1.57	1.03	1.82	3.80	1.56	.81	1.05	1.00	1.82
IN.	.51	1.61	2.71	1.81	1.07	2.10	4.24	1.80	.90	1.21	1.16	2.04

CAL YR 1986 TOTAL 6376.9 MEAN 17.5 MAX 104 MIN 2.4 CFSM 1.60 IN. 21.76
WTR YR 1987 TOTAL 6198.2 MEAN 17.0 MAX 125 MIN 3.3 CFSM 1.56 IN. 21.15

e Estimated

01399200 LAMINGTON (BLACK) RIVER NEAR IRONIA, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
12...	1030	15	303	7.5	5.5	9.1	73	3.6	330	540
MAR 1987										
02...	1200	51	--	7.5	1.0	12.2	89	3.4	1100	1600
31...	1045	40	237	7.0	12.0	7.4	72	7.1	1100	540
JUN										
09...	1030	9.3	456	7.3	20.0	1.0	11	3.2	110	>2400
JUL										
13...	1230	27	289	7.6	24.0	3.0	36	2.4	1400	>2400
AUG										
10...	1215	24	237	7.1	21.0	4.0	46	2.6	3500	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
12...	73	17	7.4	23	2.8	55	24	32	0.1
MAR 1987									
02...	67	16	6.5	32	1.9	45	18	47	<0.1
31...	57	14	5.3	24	2.0	45	14	37	<0.1
JUN									
09...	120	28	11	41	3.9	80	23	59	0.1
JUL									
13...	81	20	7.5	26	1.8	49	22	33	<0.1
AUG									
10...	59	14	5.9	20	2.2	44	14	25	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
12...	8.9	150	0.058	1.63	0.27	1.4	3.0	0.377	11
MAR 1987									
02...	8.0	160	0.028	1.49	0.62	1.2	2.7	0.230	--
31...	7.2	130	0.054	0.94	1.00	2.7	3.6	0.443	15
JUN									
09...	10	220	0.285	1.30	4.30	6.0	7.3	1.00	7.7
JUL									
13...	9.0	150	0.086	0.70	1.40	2.2	2.9	0.430	14
AUG									
10...	8.3	120	0.150	0.78	0.51	2.0	2.8	0.330	13

01399200 LAMINGTON (BLACK) RIVER NEAR IRONIA, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 09...	1030	<0.5	<10	<1	<10	90	<1	<10	18

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 09...	490	<5	270	<0.10	2	<1	10	7

1

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°43'39", long 74°43'50", Morris County, Hydrologic Unit 02030105, on right bank 1.1 mi upstream from bridge on State Highway 512, 1.2 mi northwest of Pottersville, and 5.5 mi upstream from Cold Brook. Water-quality samples collected at bridge 1.1 mi downstream from gage at high flows.

DRAINAGE AREA.--32.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October and November 1921, published in WSP 1302. Prior to October 1952, published as "Black River near Pottersville".

REVISED RECORDS.--WSP 741: 1932. WSP 781: Drainage area. WSP 1552: 1922, 1924-29(M), 1931(M), 1933-34(M), 1938(P), 1939(M), 1940, 1941(M), 1942-46(P), 1947(M), 1948-49(P), 1951-52(P), 1953(M). WDR-NJ-80-1: Correction 1979(P).

GAGE.--Water-stage recorder. Concrete control since July 1, 1937. Datum of gage is 284.14 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to July 1, 1922, nonrecording gage on downstream side of highway bridge at Pottersville, 1.1 mi downstream at different datum.

REMARKS.--Records good except for period May 14 to Sept. 7, which are fair. Flow regulated occasionally by pond above station. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--66 years, 56.1 ft^3/s, 23.23 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft^3/s, July 7, 1984, gage height, 5.94 ft, from floodmark, from rating curve extended above 380 ft^3/s on basis of slope-area measurement at gage height 4.71 ft; minimum, 1.3 ft^3/s, Oct. 4, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2345	*633	*3.53	Apr. 4	1400	603	3.48
Nov. 26	1930	473	3.25				

Minimum discharge, 15 ft^3/s, Oct. 23, 24, 25, 26, minimum gage height, 1.53 ft., Aug. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	17	85	72	32	150	134	70	37	35	28	44
2	20	18	84	80	28	157	128	67	43	44	27	40
3	20	17	192	74	37	130	112	70	40	51	30	37
4	23	17	112	68	46	109	302	88	44	40	26	35
5	21	19	113	66	50	92	268	82	48	40	40	32
6	18	36	105	65	45	82	284	79	41	41	59	32
7	17	27	92	65	48	92	230	77	40	40	39	37
8	17	37	84	62	48	101	189	72	40	43	38	48
9	17	28	96	59	44	102	160	66	39	42	44	53
10	17	27	103	60	44	95	138	62	37	39	80	35
11	16	31	84	67	42	84	123	58	35	39	53	35
12	16	33	84	62	41	77	113	55	35	45	46	40
13	17	25	78	59	35	73	109	50	34	53	45	154
14	22	23	71	59	39	68	102	48	32	54	42	110
15	20	25	67	69	44	66	98	54	31	52	40	80
16	17	25	62	68	32	63	95	50	29	50	38	95
17	16	22	61	61	30	61	103	47	28	48	37	98
18	17	21	82	64	29	58	107	46	27	47	35	99
19	16	27	113	73	27	56	96	51	27	44	32	87
20	16	58	87	65	25	54	92	50	26	41	30	78
21	16	191	88	63	25	53	88	50	35	39	27	75
22	16	81	78	59	24	52	82	49	42	37	25	72
23	15	86	73	57	24	50	76	46	38	35	24	65
24	15	84	70	67	24	49	90	43	34	34	22	56
25	15	73	179	65	25	48	118	41	33	33	21	48
26	21	148	112	e53	28	46	90	40	33	42	20	42
27	23	165	115	e49	38	44	85	39	38	38	34	38
28	19	116	109	e50	39	46	87	39	36	35	38	35
29	17	115	95	e56	---	44	83	39	33	32	37	32
30	17	100	85	e57	---	47	75	38	31	31	35	35
31	17	---	78	49	---	179	---	38	---	30	37	---
TOTAL	554	1692	2937	1943	993	2428	3857	1704	1066	1274	1129	1767
MEAN	17.9	56.4	94.7	62.7	35.5	78.3	129	55.0	35.5	41.1	36.4	58.9
MAX	23	191	192	80	50	179	302	88	48	54	80	154
MIN	15	17	61	49	24	44	75	38	26	30	20	32
CFSM	.54	1.72	2.89	1.91	1.08	2.39	3.92	1.68	1.08	1.25	1.11	1.80
IN.	.63	1.92	3.33	2.20	1.13	2.75	4.37	1.93	1.21	1.44	1.28	2.00

CAL YR 1986 TOTAL 20444 MEAN 56.0 MAX 263 MIN 14 CFSM 1.71 IN. 23.18
WTR YR 1987 TOTAL 21344 MEAN 58.5 MAX 302 MIN 15 CFSM 1.78 IN. 24.20

e Estimated

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
12...	1330	32	203	7.7	5.5	12.3	98	E1.6	330	>2400
MAR 1987										
02...	1330	143	196	8.1	2.0	15.3	113	<1.1	80	>2400
31...	1345	295	122	7.6	12.0	11.4	110	3.2	5400	>2400
JUN										
09...	1345	39	--	7.7	19.0	8.4	92	<1.0	<20	1600
JUL										
13...	1345	54	221	8.2	24.0	8.3	100	E2.1	230	540
AUG										
10...	1345	71	162	7.7	21.5	8.4	97	E2.4	2200	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
12...	45	10	4.8	13	1.8	30	18	24	0.1
MAR 1987									
02...	40	9.4	4.0	15	1.5	24	14	23	<0.1
31...	36	8.5	3.5	10	1.6	24	13	14	<0.1
JUN									
09...	68	16	6.8	17	1.0	56	11	28	0.1
JUL									
13...	69	17	6.5	17	2.1	57	25	26	<0.1
AUG									
10...	49	12	4.6	12	2.4	33	12	19	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
12...	11	100	0.007	0.38	0.06	0.63	1.0	0.068	6.5
MAR 1987									
02...	8.3	90	0.008	1.05	0.26	0.51	1.6	0.055	--
31...	8.1	73	0.024	0.67	0.11	1.6	2.3	0.179	21
JUN									
09...	16	130	0.008	0.54	0.24	0.82	1.4	0.116	5.4
JUL									
13...	15	140	0.022	0.36	0.12	0.96	1.3	0.030	12
AUG									
10...	12	94	<0.020	0.34	0.07	1.1	1.5	0.240	11

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
NOV 1986 12...	1330	<0.5	20	<1	<10	<10	<1	<10	6
JUN 1987 09...	1345	<0.5	30	<1	<10	20	<1	<10	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
NOV 1986 12...	640	6	80	<0.10	3	<1	<10	2
JUN 1987 09...	700	<5	50	<0.10	3	<1	<10	--

01399510 UPPER COLD BROOK NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°43'16", long 74°45'09", Hunterdon County, Hydrologic Unit 02030105, on right bank along a private dirt road, 400 ft downstream from the former Pottersville Reservoir, and 1.5 mi west of Pottersville.

DRAINAGE AREA.--2.18 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

REVISED RECORDS.--WDR-NJ-84-1: 1975(P), 1979-83(P).

GAGE.--Water-stage recorder and rock outcrop control. Datum of gage is 451.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good above 2.0 ft^3/s and fair below. Flow regulated by Pottersville Reservoir, 400 ft above station, until August 1982 when dam was demolished. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 3.85 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s, July 7, 1984, gage height, 3.91 ft, from rating curve extended above 20 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.03 ft^3/s, Aug. 28 & 29 and Sept. 3 & 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2300	*178	*1.73	Apr. 4	1315	118	1.53
Nov. 26	1930	112	1.51	Sept. 13	2130	102	1.47
Dec. 25	0330	110	1.50				

Minimum discharge, 0.87 ft^3/s Oct. 9, 10, 11, 24, Aug. 26, gage height, 0.46 ft.

REVISIONS.--The date and gage height of the revision for water year 1975 as published in WDR NJ-84-1 was found to be in error. The peak occurred on Jan. 24, 1975, and the gage height was 3.17 ft. These figures supercede those published in that report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	.92	3.5	4.7	3.2	35	6.6	4.4	1.9	1.8	1.1	1.7
2	.95	.98	7.9	6.4	3.7	14	5.2	4.4	2.4	2.7	1.1	1.1
3	1.1	.96	25	5.2	4.2	8.1	4.8	5.3	2.1	4.0	1.5	1.0
4	1.1	.98	6.2	4.6	4.1	6.6	52	6.9	3.9	1.7	1.1	1.0
5	1.0	1.4	5.2	4.2	3.5	5.9	13	5.4	3.3	1.5	6.0	1.0
6	.94	2.4	4.8	4.1	3.3	6.1	16	4.7	2.1	1.4	5.1	1.4
7	.92	1.2	4.4	4.1	3.6	7.2	11	4.2	2.0	1.5	1.6	1.8
8	.92	3.4	4.3	3.9	3.5	6.4	8.5	4.0	1.9	2.6	1.4	4.0
9	.91	1.4	9.5	3.8	3.3	5.7	7.4	3.8	1.8	2.7	1.6	2.7
10	.88	1.1	7.0	4.3	3.9	5.0	6.6	3.7	1.7	1.9	6.9	1.4
11	.91	3.3	5.1	4.8	3.1	4.7	6.0	3.4	1.6	1.5	1.7	1.4
12	.92	1.6	5.2	3.9	3.3	4.7	6.0	3.3	1.8	2.7	1.4	1.9
13	.96	1.2	4.6	3.8	3.2	4.6	5.8	3.1	1.8	1.8	1.3	22
14	1.4	1.1	4.1	3.8	3.5	4.4	5.3	3.0	1.6	4.1	1.2	6.2
15	1.0	1.1	4.2	4.9	4.1	4.2	5.1	4.4	1.5	2.6	1.2	2.8
16	.95	1.0	4.2	4.0	4.8	4.2	4.9	3.3	1.5	1.6	1.1	2.3
17	.92	1.0	4.1	3.5	4.0	4.1	9.0	2.9	1.4	1.4	1.1	3.2
18	.94	1.1	18	4.8	3.0	4.0	6.9	3.0	1.4	1.3	1.1	3.9
19	.92	2.6	7.3	5.7	2.9	3.8	5.4	3.6	1.4	1.3	1.0	3.0
20	.92	15	5.5	4.7	2.8	3.8	5.0	3.8	1.4	1.3	1.0	2.4
21	.92	21	5.0	4.3	2.9	3.8	4.8	3.3	3.1	1.2	.98	2.2
22	.92	4.5	4.6	5.1	3.0	3.7	4.6	2.8	4.8	1.2	1.1	2.2
23	.92	3.5	4.5	4.5	3.3	3.5	4.4	2.7	2.2	1.1	1.0	2.0
24	.91	3.9	5.1	4.5	3.0	3.4	8.8	2.6	1.7	1.2	.97	1.8
25	.92	3.0	29	4.6	2.9	3.2	10	2.5	1.5	1.2	.96	1.7
26	1.5	29	7.2	3.5	2.9	3.3	5.5	2.5	1.6	1.9	.94	1.6
27	1.2	8.8	6.1	3.3	2.9	3.1	5.0	2.5	2.4	1.3	2.5	1.6
28	1.0	5.4	5.6	3.6	2.9	3.7	5.7	2.4	1.6	1.1	2.0	1.6
29	.96	4.6	5.2	3.4	---	3.2	5.1	2.1	1.5	1.1	1.6	1.6
30	.94	4.1	5.2	3.7	---	4.6	4.7	2.0	1.4	1.1	1.2	2.4
31	.92	---	4.8	3.7	---	27	---	2.1	---	1.1	1.1	---
TOTAL	30.61	131.54	222.4	133.4	94.8	205.0	249.1	108.1	60.3	54.9	53.85	84.9
MEAN	.99	4.38	7.17	4.30	3.39	6.61	8.30	3.49	2.01	1.77	1.74	2.83
MAX	1.5	29	29	6.4	4.8	35	52	6.9	4.8	4.1	6.9	22
MIN	.88	.92	3.5	3.3	2.8	3.1	4.4	2.0	1.4	1.1	.94	1.0
CFSM	.45	2.01	3.29	1.97	1.55	3.03	3.81	1.60	.92	.81	.80	1.30
IN.	.52	2.24	3.80	2.28	1.62	3.50	4.25	1.84	1.03	.94	.92	1.45

CAL YR 1986 TOTAL 1361.34 MEAN 3.73 MAX 51 MIN .88 CFSM 1.71 IN. 23.22
WTR YR 1987 TOTAL 1428.88 MEAN 3.91 MAX 52 MIN .88 CFSM 1.80 IN. 24.38

01399525 AXLE BROOK NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°41'40", long 74°43'05", Somerset County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Black River Road, 1.3 mi south of Pottersville, and 0.3 mi upstream from mouth.

DRAINAGE AREA.--1.22 mi^2.

PERIOD OF RECORD.--October 1977 to current year. Prior to October 1984, published as "Lamington (Black) River tributary No. 2 near Pottersville".

GAGE.--Water-stage recorder. Wooden control since October 1982. Datum of gage is 172.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those below 1.0 ft^3/s and estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 1.92 ft^3/s, 24.49 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 955 ft^3/s, July 7, 1984, gage height, 6.30 ft, from floodmark, from rating extended above 400 ft^3/s on basis of contracted-opening measurement of peak flow; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2330	238	3.33	Apr. 4	1345	236	3.17
Nov. 26	1945	261	3.44	Sept. 13	1000	*331	*3.64
Dec. 25	0330	294	3.47				

Minimum discharge, 0.06 ft^3/s, Aug. 25, 26, Sept. 25, 26; minimum gage height, 0.18 ft, Aug. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.19	1.2	1.9	1.3	36	1.8	1.0	.11	.10	.10	.38
2	.38	.22	9.1	7.4	1.9	8.0	1.3	1.0	.63	.30	.10	.08
3	.54	.21	25	4.2	5.0	3.1	1.2	1.2	.24	2.7	.10	.07
4	.64	.24	2.8	2.6	3.7	2.2	54	2.6	.95	.20	.10	.06
5	.62	.42	2.0	2.1	1.7	1.8	4.2	1.8	.82	.12	1.2	.06
6	.47	2.5	1.7	2.0	1.6	1.7	11	1.3	.28	.11	2.2	.14
7	.40	.36	1.5	2.1	2.3	1.7	5.3	1.1	.18	.11	.21	.76
8	.35	5.1	1.3	2.0	1.7	1.6	2.2	.97	.16	.70	.13	2.6
9	.35	1.1	9.2	1.9	1.5	1.5	1.5	.89	.16	.44	.32	1.1
10	.35	.57	4.2	3.2	1.2	1.2	1.3	.80	.12	.28	5.9	.45
11	.34	7.9	2.2	3.2	1.2	1.1	1.2	.72	.11	.15	.46	.38
12	.39	1.7	2.9	2.0	1.1	1.2	1.1	.68	.13	.19	.27	.62
13	.43	.83	1.9	1.8	1.1	1.2	1.0	.57	.13	.14	.18	26
14	.86	.61	1.4	1.8	1.0	1.1	.94	.53	.11	3.1	.16	1.0
15	.34	.57	1.3	1.8	.97	1.1	.90	.71	.11	.72	.14	.52
16	.26	.55	1.3	1.7	.95	1.0	.88	.61	.10	.24	.14	.53
17	.27	.48	1.3	1.6	.95	.98	2.3	.52	.10	.13	.13	1.0
18	.27	.59	16	3.3	.93	.95	1.5	.51	.10	.11	.16	1.3
19	.25	8.0	3.9	6.0	.85	.93	1.1	.65	.10	.11	.15	3.0
20	.27	18	2.1	2.0	.81	.90	.97	.63	.10	.11	.14	.87
21	.30	16	1.6	1.5	.82	.88	.89	.67	.12	.11	.08	.71
22	.32	1.7	1.3	1.4	.87	.85	.80	.52	.57	.10	.14	1.1
23	.34	1.1	1.1	1.5	.99	.80	.72	.48	.19	.10	.15	.76
24	.32	1.6	1.7	1.3	1.0	.79	1.3	.46	.11	.13	.10	.69
25	.34	.97	37	1.3	1.0	.73	6.2	e.44	.10	.16	.07	.66
26	.79	42	4.0	1.3	1.0	.71	1.5	e.34	.10	.33	.07	.65
27	.37	5.6	2.9	1.2	.92	.66	1.3	e.24	.54	.12	.61	.65
28	.22	2.3	2.6	1.1	.99	.87	1.3	e.20	.13	.10	.47	.65
29	.20	1.9	2.2	1.1	---	.69	1.3	e.16	.10	.10	.42	.64
30	.20	1.5	2.1	1.2	---	.82	1.2	.13	.10	.10	.08	.77
31	.17	---	2.0	1.5	---	14	---	.12	---	.10	.06	---
TOTAL	11.69	124.81	150.8	69.0	39.35	91.06	112.20	22.55	6.80	11.51	14.54	48.20
MEAN	.38	4.16	4.86	2.23	1.41	2.94	3.74	.73	.23	.37	.47	1.61
MAX	.86	42	37	7.4	5.0	36	54	2.6	.95	3.1	5.9	26
MIN	.17	.19	1.1	1.1	.81	.66	.72	.12	.10	.10	.06	.06
CFSM	.31	3.41	3.99	1.82	1.15	2.41	3.07	.60	.19	.30	.38	1.32
IN.	.36	3.81	4.60	2.10	1.20	2.78	3.42	.69	.21	.35	.44	1.47

CAL YR 1986 TOTAL 757.72 MEAN 2.08 MAX 43 MIN .01 CFSM 1.70 IN. 23.10
WTR YR 1987 TOTAL 702.50 MEAN 1.92 MAX 54 MIN .06 CFSM 1.58 IN. 21.41

e Estimated

01399670 SOUTH BRANCH ROCKAWAY CREEK AT WHITEHOUSE STATION, NJ

LOCATION.--Lat 40°37'10", long 74°46'30", Hunterdon County, Hydrologic Unit 02030105, on right bank 1,700 ft upstream from bridge on U.S. Route 22, 0.4 mi northeast of Whitehouse Station, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--October 1986 to September 1987. March 1977 to September 1986, water-stage recorder 1,700 ft downstream, at datum 8.07 ft lower (sta. 01399690).

GAGE.--Water-stage recorder. Datum of gage is 121.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except from Mar. 3-31 and July 26 to Sept. 9, which are fair. Releases from Round Valley Reservoir enter stream directly above station (see Raritan River basin, reservoirs in). Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 34.3 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,190 ft^3/s, July 7, 1984, gage height, 7.82 ft, present datum; minimum 0.18 ft^3/s, Oct. 3, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,800 ft^3/s, Apr. 4, gage height, 7.35 ft; minimum daily, 3.5 ft^3/s, Aug. 24, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	37	19	21	16	195	34	21	8.0	17	11	9.0
2	5.2	32	49	54	19	78	25	21	14	23	11	4.7
3	5.2	34	275	38	30	44	21	24	9.3	51	13	4.1
4	9.0	31	40	28	34	32	597	40	16	15	11	7.1
5	6.4	21	30	24	26	27	76	33	22	12	45	35
6	5.4	24	26	22	23	25	85	28	9.4	10	72	4.9
7	4.8	7.8	23	22	24	25	61	24	8.7	10	19	6.4
8	5.3	33	21	21	24	24	43	22	8.8	28	13	14
9	5.5	19	60	18	23	22	36	20	9.5	40	12	23
10	8.2	11	48	23	17	17	32	18	7.7	17	199	7.9
11	30	38	29	30	17	15	29	17	7.0	13	22	6.4
12	44	28	32	23	18	16	28	17	8.8	20	14	6.5
13	47	15	25	20	16	15	28	15	9.1	21	10	63
14	24	11	19	19	14	14	25	15	7.5	41	8.5	26
15	12	9.7	19	21	12	13	24	19	6.8	37	7.4	12
16	41	9.2	18	19	e10	13	23	15	6.5	19	6.6	9.8
17	44	8.3	18	16	12	12	43	13	6.2	15	6.3	18
18	53	9.7	110	24	e10	11	37	15	6.2	14	5.8	56
19	53	58	52	45	11	11	28	19	6.6	12	4.9	27
20	49	42	31	35	11	11	25	19	7.2	e7.0	4.6	19
21	44	287	27	28	13	11	23	17	15	e7.5	4.3	15
22	44	30	23	25	16	10	21	13	35	11	5.3	16
23	38	23	22	26	22	9.5	20	13	15	10	4.8	12
24	35	25	22	18	20	9.0	28	12	8.2	14	3.8	10
25	35	20	391	18	e17	8.4	58	11	7.1	38	3.8	8.7
26	27	265	45	19	e16	8.8	28	11	7.4	26	3.8	7.8
27	8.0	84	34	16	e14	8.2	25	11	29	16	16	7.3
28	5.3	34	30	15	e13	11	28	11	11	10	8.3	7.0
29	20	28	27	14	---	8.8	27	9.6	8.4	9.0	18	6.6
30	37	23	25	17	---	11	24	8.9	9.8	14	5.8	11
31	37	---	23	20	---	98	---	8.4	---	22	4.6	---
TOTAL	787.2	1297.7	1613	739	498	813.7	1582	540.9	331.2	599.5	574.6	461.2
MEAN	25.4	43.3	52.0	23.8	17.8	26.2	52.7	17.4	11.0	19.3	18.5	15.4
MAX	53	287	391	54	34	195	597	40	35	51	199	63
MIN	4.8	7.8	18	14	10	8.2	20	8.4	6.2	7.0	3.8	4.1

CAL YR 1986 TOTAL 9732.7 MEAN 26.7 MAX 391 MIN 2.2
WTR YR 1987 TOTAL 9838.0 MEAN 27.0 MAX 597 MIN 3.8

e Estimated

01399700 ROCKAWAY CREEK AT WHITEHOUSE, NJ

LOCATION.--Lat 40°37'49", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, on right bank at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth.

DRAINAGE AREA.--37.1 mi^2.

PERIOD OF RECORD.--Water years 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1977 to September 1978.
WATER TEMPERATURES: April 1977 to September 1978.
SEDIMENT ANALYSES: October 1976 to September 1978.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
09...	1030	E13	256	8.0	14.0	10.2	99	<1.2	170	350
FEB 1987										
10...	1100	E64	258	7.7	0.0	15.5	106	<0.9	20	130
MAR										
18...	1230	--	165	9.2	8.0	15.9	135	E1.5	<20	7
MAY										
28...	1030	E29	197	7.9	17.0	9.4	97	<0.9	170	130
JUL										
06...	1045	E17	259	7.7	21.5	8.9	101	<0.8	330	920
AUG										
05...	1030	E14	260	7.9	27.0	8.9	113	E2.2	330	350

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
09...	100	25	9.4	11	2.5	75	22	12	<0.1
FEB 1987									
10...	82	20	7.8	13	1.4	51	23	25	<0.1
MAR									
18...	68	16	6.7	8.4	1.1	47	20	10	0.1
MAY									
28...	78	19	7.5	8.6	1.4	59	17	12	<0.1
JUL									
06...	85	21	7.9	12	1.8	66	20	14	<0.1
AUG									
05...	96	23	9.3	12	2.1	73	21	16	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
09...	15	140	0.016	1.54	<0.05	0.57	2.1	0.340	2.5
FEB 1987									
10...	13	130	0.008	1.49	0.08	0.40	1.9	0.072	3.2
MAR									
18...	13	100	--	1.34	0.09	0.32	1.7	0.068	1.2
MAY									
28...	16	120	0.022	1.63	0.08	0.43	2.1	0.095	2.3
JUL									
06...	13	130	0.035	1.45	0.06	0.51	2.0	0.110	3.3
AUG									
05...	11	140	0.019	1.56	0.08	0.62	2.2	0.120	2.3

01399700 ROCKAWAY CREEK AT WHITEHOUSE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986											
09...	1030	<0.5	--	--	--	<1	--	10	70	<1	--
09...	1030	--	100	0.1	0.7	--	2	--	--	--	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986											
09...	<10	--	--	8	--	130	--	<5	--	20	--
09...	--	20	10	--	6	--	5400	--	<10	--	270

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	1.3	--	2	--	<1	--	460	--	2	--	--
09...	--	0.01	--	<10	--	<1	--	40	--	<1	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	<0.1	<1.0	<0.1	0.1	2.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01399780 LAMINGTON (BLACK) RIVER AT BURNT MILLS, NJ

LOCATION.--Lat 40°38'04", long 74°41'13", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road in Burnt Mills, 1,400 ft upstream from mouth, and 2.4 mi southwest of Greater Cross Roads.

DRAINAGE AREA.--100 mi^2.

PERIOD OF RECORD.--Water years 1964, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1986										
12...	1130	E65	169	7.0	6.0	11.6	93	E1.7	3500	>2400
MAR 1987										
05...	1030	E392	178	7.7	2.0	14.4	103	<1.0	50	17
APR										
06...	1015	E1310	122	7.1	8.0	12.2	104	E2.1	1300	>2400
JUN										
15...	1000	E96	265	8.8	23.5	10.6	126	E1.4	330	350
JUL										
22...	1130	E113	--	8.5	25.5	8.2	--	E1.5	170	350
AUG										
25...	1015	E56	--	8.0	16.0	10.5	--	3.7	130	240

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
12...	54	13	5.2	8.9	2.4	37	21	16	<0.1
MAR 1987									
05...	53	13	5.0	12	1.1	34	19	17	0.1
APR									
06...	41	10	3.9	8.1	1.4	27	14	9.9	<0.1
JUN									
15...	83	20	8.1	13	1.3	68	17	21	0.1
JUL									
22...	82	20	7.7	14	2.1	69	16	21	0.1
AUG									
25...	94	23	8.8	15	1.8	75	21	21	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1986									
12...	10	99	0.017	0.63	0.08	0.74	1.4	0.121	8.3
MAR 1987									
05...	11	99	0.010	1.11	0.12	0.50	1.6	0.038	2.5
APR									
06...	9.1	73	0.020	0.69	0.10	0.68	1.4	0.097	8.4
JUN									
15...	13	130	0.020	0.90	<0.05	0.69	1.6	0.074	5.4
JUL									
22...	9.0	130	0.009	0.58	0.06	0.73	1.3	0.120	5.4
AUG									
25...	13	150	0.014	0.96	0.06	0.71	1.7	0.070	3.0

01399780 LAMINGTON (BLACK) RIVER AT BURNT MILLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 15...	1000	<0.5	20	<1	<10	30	<1	10	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 15...	200	<5	20	<0.10	<1	<1	<10	3

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ

LOCATION.--Lat 40°34'10", long 74°40'45", Somerset County, Hydrologic Unit 02030105, on right bank, 400 ft upstream from U.S. Highway 202, 1.4 mi upstream from confluence with South Branch, and 2.7 mi west of Raritan.

DRAINAGE AREA.--190 mi^2.

PERIOD OF RECORD.--June 1923 to current year. Monthly discharge only for June 1923, published in WSP 1302. Prior to October 1943, published as "at Milltown".

REVISED RECORDS.--WSP 1552: 1924-26, 1928-35. WDR NJ-79-1: 1971-78(P).

GAGE.--Water-stage recorder. Concrete control since Sept. 1, 1936. Datum of gage is 50.43 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1936, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records fair above 5,000 ft^3/s and good below. Releases from Round Valley Reservoir enter basin upstream of gage. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--64 years, 309 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,600 ft^3/s, Aug. 28, 1971, gage height, 15.47 ft, from high-water mark in gage house, from rating curve extended above 15,000 ft^3/s; minimum observed, about 3 ft^3/s, Nov. 28, 1930, gage height, 1.72 ft, result of freezeup, minimum daily, 7.5 ft^3/s, Sept. 26, 27, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0800	6,390	8.45	Dec. 25	1015	7,090	8.80
Nov. 27	0115	*9,310	*9.80	Apr. 4	2045	8,200	9.32
Dec. 3	0745	6,700	8.61				

Minimum discharge, 58 ft^3/s, Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	90	348	354	301	2130	698	295	123	115	95	136
2	73	91	477	867	303	1370	443	284	182	197	85	117
3	72	90	3510	678	454	798	384	287	159	893	89	98
4	111	85	766	487	596	606	4470	578	356	203	94	87
5	90	e120	567	387	436	497	1750	501	460	145	135	109
6	74	e400	482	353	345	439	1430	381	190	125	570	85
7	65	157	423	347	365	467	1150	329	151	122	182	125
8	63	444	382	334	372	499	858	293	145	281	127	195
9	63	319	830	306	365	451	704	273	139	434	118	380
10	62	192	900	347	284	380	611	251	125	246	992	161
11	72	500	519	504	277	337	537	233	110	151	251	123
12	82	528	542	381	268	333	485	221	112	147	170	125
13	107	241	451	322	292	326	466	210	124	221	141	1310
14	137	182	344	300	281	302	418	199	112	443	129	697
15	99	162	345	335	252	282	386	238	100	559	117	274
16	95	155	303	349	188	267	370	227	94	205	106	242
17	97	143	295	280	224	253	519	193	87	162	102	261
18	106	137	1140	364	218	242	566	189	82	140	96	561
19	106	869	1020	713	194	235	417	240	81	129	84	464
20	102	379	529	591	192	231	364	226	80	151	77	302
21	94	3020	445	429	201	226	339	231	146	123	72	245
22	92	588	385	360	186	218	315	194	418	103	74	240
23	89	412	350	437	230	211	293	181	228	92	78	222
24	82	422	331	314	221	205	358	174	130	139	66	193
25	81	358	3490	270	214	195	951	163	107	301	63	169
26	115	2290	809	312	218	198	443	157	98	296	63	155
27	126	2950	620	279	219	189	362	154	394	223	174	141
28	85	646	543	263	213	223	392	156	163	129	178	135
29	72	510	475	318	---	206	392	144	118	103	216	129
30	95	417	435	330	---	195	344	132	101	135	120	162
31	92	---	398	380	---	1240	---	122	---	132	94	---
TOTAL	2770	16897	22454	12291	7909	13751	21215	7456	4915	6845	4958	7643
MEAN	89.4	563	724	396	282	444	707	241	164	221	160	255
MAX	137	3020	3510	867	596	2130	4470	578	460	893	992	1310
MIN	62	85	295	263	186	189	293	122	80	92	63	85

CAL YR 1986 TOTAL 131503 MEAN 360 MAX 5360 MIN 50
WTR YR 1987 TOTAL 129104 MEAN 354 MAX 4470 MIN 62

e Estimated

01400120 RARITAN RIVER AT RARITAN, NJ

LOCATION.--Lat 40°33'52", long 74°38'10", Somerset County, Hydrologic Unit 02030105, at bridge on South Branch-Raritan Road in Raritan, 1.7 mi upstream from Peters Brook, 3.5 mi northeast of South Branch, and 3.6 mi southeast of North Branch.

DRAINAGE AREA.--474 mi^2.

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 07...	1030	E224	254	7.9	15.0	10.6	105	1.6	170	20
JAN 1987 15...	1100	E745	235	7.5	4.5	13.2	103	>6.5	330	31
MAR 25...	1030	E395	237	8.0	13.0	12.1	114	3.2	<2	11
MAY 20...	1030	E532	243	7.6	15.0	9.5	93	1.8	920	540
JUL 01...	1030	E258	289	8.0	27.0	9.2	116	2.3	240	240
AUG 05...	1100	E233	282	7.8	27.5	7.3	93	1.7	350	13

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 07...	92	22	9.1	13	2.4	72	23	19	0.1
JAN 1987 15...	75	18	7.4	15	1.6	44	23	23	<0.1
MAR 25...	83	20	8.0	14	1.5	55	25	23	0.1
MAY 20...	83	20	8.1	13	1.4	59	21	21	0.1
JUL 01...	94	23	9.0	15	2.1	71	24	27	0.1
AUG 05...	98	24	9.3	16	2.5	67	29	24	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 07...	9.5	140	0.010	0.80	<0.05	0.56	1.4	0.130	5.1
JAN 1987 15...	12	130	0.017	2.16	0.17	0.34	2.5	0.140	--
MAR 25...	5.8	130	0.033	0.99	0.07	0.30	1.3	<0.020	2.2
MAY 20...	7.9	130	0.036	1.10	0.14	0.87	2.0	0.073	7.5
JUL 01...	10	150	0.023	1.23	0.07	0.67	1.9	0.120	3.1
AUG 05...	7.7	150	0.015	1.01	0.08	0.72	1.7	0.130	3.8

01400120 RARITAN RIVER AT RARITAN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 07...	1030	<0.5	10	<1	<10	40	<1	<10	6

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 07...	190	21	30	0.10	2	<1	10	2

01400300 PETERS BROOK NEAR RARITAN, NJ

LOCATION.--Lat 40°35'37", long 74°37'51", Revised, Somerset County, Hydrologic Unit 02030105, on left bank 12 ft upstream from bridge on Garretson Road, 1.5 mi north of Raritan, and 2.5 mi from mouth.

DRAINAGE AREA.--4.19 mi^2.

PERIOD OF RECORDS.--May 1978 to current year.

REVISED RECORD.--WDR NJ-79-1: 1978(P).

GAGE.--Water-stage recorder. Datum of gage is 68.71 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--No estimated daily discharges. Records poor. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--9 years, 6.36 ft^3/s, 20.61 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,090 ft^3/s, July 7, 1984, gage height, 8.15 ft; no flow part or all of some days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0030	689	6.25	Dec. 25	0415	726	6.37
Nov. 26	2015	*966	*7.10	June 4	2000	564	5.82
Dec. 3	0045	606	5.96	July 3	0100	573	5.85

Minimum discharge, 0.10 ft^3/s, Oct. 18, 19, 21, 25, 26, gage height 1.55 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.41	1.8	1.6	4.2	105	8.3	1.8	.69	3.3	.73	1.1
2	.20	.36	59	63	11	27	3.5	1.6	5.0	20	.71	.80
3	3.6	.34	105	17	30	11	2.8	3.5	.83	67	.67	.55
4	2.3	.52	6.0	5.9	31	7.1	149	21	91	2.9	.53	.45
5	.29	4.6	3.1	2.9	13	5.5	14	9.8	21	1.6	35	.45
6	.05	9.0	2.3	2.3	8.1	3.7	44	4.0	2.5	1.5	16	.67
7	.19	.78	2.0	2.3	10	3.7	20	2.5	1.5	4.3	2.9	1.4
8	.17	18	1.8	2.4	9.8	3.5	8.8	2.4	1.2	52	1.9	5.8
9	.15	2.6	42	2.0	10	3.1	5.1	2.0	1.5	40	2.3	6.9
10	.15	1.1	11	9.7	5.1	2.0	3.7	2.1	1.0	3.9	34	1.1
11	.15	32	4.3	14	4.1	1.6	2.9	1.5	.87	1.7	2.9	.79
12	.14	4.4	9.6	4.4	3.9	1.7	2.4	1.5	1.1	2.2	1.8	.72
13	.34	1.3	3.7	2.9	3.3	2.5	2.4	1.3	.87	1.2	1.3	26
14	3.1	.82	2.0	2.3	2.7	2.0	2.4	1.1	.64	69	.99	3.6
15	.42	.62	1.8	2.6	1.8	1.7	2.5	6.1	.51	11	.82	1.4
16	.18	.60	1.8	2.0	1.4	1.5	2.3	1.6	.42	2.6	.64	1.4
17	.12	.46	1.8	1.5	1.6	1.4	12	1.0	.39	1.5	.67	9.0
18	.11	6.8	64	18	1.8	1.4	6.3	2.6	.33	1.1	.89	10
19	.11	54	12	31	1.5	1.3	2.6	3.0	.35	3.5	.60	3.6
20	.14	39	3.5	11	1.4	1.3	2.0	2.1	.33	1.5	.34	2.0
21	.11	80	2.4	5.8	1.5	1.2	1.8	2.0	14	.65	.32	1.2
22	.14	2.7	1.9	3.4	1.9	1.2	1.6	1.1	55	.68	.70	1.7
23	.23	1.5	1.7	3.6	4.6	1.1	1.4	1.2	6.2	.70	.45	1.3
24	.13	3.6	6.1	2.4	6.4	1.0	8.8	.96	1.9	18	.43	.91
25	.11	1.8	134	1.9	5.4	1.0	26	.82	1.2	9.0	.45	.78
26	2.9	179	6.4	1.9	6.0	.97	3.8	.76	.87	27	.43	.66
27	.82	19	3.5	1.7	4.6	.98	2.2	.68	53	3.1	9.2	.61
28	.37	4.8	2.6	1.6	6.2	2.7	6.4	.73	3.1	1.3	4.2	.66
29	.36	3.1	2.2	1.5	---	1.3	4.5	.60	1.4	.91	4.5	.66
30	.32	2.2	2.0	4.1	---	2.8	2.7	.62	2.9	2.3	1.3	2.6
31	.61	---	1.8	6.9	---	43	---	.60	---	1.0	.99	---
TOTAL	18.19	475.41	503.1	233.6	192.3	245.25	356.2	82.57	271.60	356.44	128.66	88.81
MEAN	.59	15.8	16.2	7.54	6.87	7.91	11.9	2.66	9.05	11.5	4.15	2.96
MAX	3.6	179	134	63	31	105	149	21	91	69	35	26
MIN	.05	.34	1.7	1.5	1.4	.97	1.4	.60	.33	.65	.32	.45
CFSM	.14	3.78	3.87	1.80	1.64	1.89	2.83	.64	2.16	2.74	.99	.71
IN.	.16	4.22	4.47	2.07	1.71	2.18	3.16	.73	2.41	3.16	1.14	.79

CAL YR 1986 TOTAL 2858.11 MEAN 7.83 MAX 241 MIN .05 CFSM 1.87 IN. 25.37
WTR YR 1987 TOTAL 2952.09 MEAN 8.09 MAX 179 MIN .05 CFSM 1.93 IN. 26.20

01400350 MACS BROOK AT SOMERVILLE, NJ

LOCATION.--Lat 40°34'26", long 74°37'06", Somerset County, Hydrologic Unit 02030105, on left upstream wingwall of culvert under access road from U.S. Highway 22 west to U.S. Highways 202 and 206, 1,200 ft upstream from Peters Brook, and 0.4 mi north of Somerville.

DRAINAGE AREA.--0.77 mi^2.

PERIOD OF RECORD.--June 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 58.37 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 0.5 ft^3/s and fair below, except for the periods of estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 1.62 ft^3/s, 28.57 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549 ft^3/s, Apr. 16, 1986, gage height 4.66 ft; no flow part or all of many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	1945	185	3.94	July 14	1645	255	4.58
Dec. 25	0315	178	3.87	Aug. 5	1530	*306	*4.97

No flow part of many days in October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.00	.20	.17	.93	30	1.1	.50	.10	.55	.30	.27
2	.05	.00	13	17	1.8	5.3	.34	.46	.25	6.4	.38	.48
3	.08	.04	23	3.9	5.4	1.4	.40	.62	.12	7.2	.90	.16
4	.05	.02	.93	1.0	4.4	.86	34	3.5	11	.65	.55	.11
5	.02	.69	.35	.53	1.4	.58	2.2	1.8	4.8	.37	26	.12
6	.05	.86	.22	.32	1.1	.64	8.3	1.0	.66	.35	10	.16
7	.04	.10	.18	.32	1.5	.47	3.2	.52	.36	.26	3.8	.22
8	.04	2.4	.21	.34	1.4	.49	1.3	.43	.50	9.8	.64	2.5
9	.04	.30	11	.30	1.6	.45	.87	.35	.80	9.5	1.2	.89
10	.03	.14	2.0	1.8	.86	.31	.61	.33	.59	1.2	11	.22
11	.00	5.4	.78	1.9	.51	.28	.44	.34	.57	.50	1.4	.19
12	.00	.58	1.8	.75	.46	.42	.46	.29	.67	1.9	.83	.16
13	.04	.16	.45	.32	e.32	.58	.51	.23	.54	.87	.54	5.6
14	.48	.08	e.51	.36	e.30	.23	.40	.19	.44	28	.35	.75
15	.03	.06	e.38	.33	e.30	.25	.39	.69	.42	4.3	.20	.32
16	.0	.05	e.54	.27	.47	.47	.43	.23	.39	1.1	.20	.25
17	.03	.08	e.54	.20	.40	.31	1.9	.20	.22	.61	.35	2.4
18	.00	1.9	14	3.9	.46	.15	.88	.47	.21	.43	.20	1.3
19	.00	6.7	2.1	7.7	.40	.41	.46	.43	.20	1.6	.15	.29
20	.04	11	.41	2.2	.39	.27	.53	.35	.20	.66	.15	.18
21	.03	13	.29	1.2	.27	.14	.46	.30	3.4	.88	.14	.34
22	.03	.42	.20	.57	.34	.14	.46	.19	11	.41	.29	.73
23	.02	.20	.18	.72	.71	.19	.41	.23	1.7	.49	.15	.27
24	.02	.70	2.3	e.56	1.2	.36	2.8	.16	.85	9.2	.13	.31
25	.00	.26	30	e.60	.97	.22	5.9	.15	.45	3.3	.13	.12
26	.33	33	.97	e.60	.94	.13	.99	.13	.42	9.9	.13	.11
27	.05	2.9	.36	e.47	.59	.13	.64	.13	2.5	1.9	2.3	.11
28	.03	.52	.30	e.48	1.0	.33	1.4	.13	.45	1.3	1.3	.27
29	.02	.29	.24	e.44	---	.16	.98	.13	.31	1.1	.42	.07
30	.02	.19	.24	1.3	---	.47	.65	.12	.26	.72	.19	.31
31	.02	---	.20	1.6	---	8.0	---	.12	---	.34	.27	---
TOTAL	1.68	82.04	107.88	52.15	30.42	54.14	73.41	14.72	44.38	105.79	64.59	19.21
MEAN	.05	2.73	3.48	1.68	1.09	1.75	2.45	.47	1.48	3.41	2.08	.64
MAX	.48	33	30	17	5.4	30	34	3.5	11	28	26	5.6
MIN	.00	.00	.18	.17	.27	.13	.34	.12	.10	.26	.13	.07
CFSM	.07	3.55	4.52	2.18	1.41	2.27	3.18	.62	1.92	4.43	2.71	.83
IN.	.08	3.96	5.21	2.52	1.47	2.62	3.55	.71	2.14	5.11	3.12	.93

CAL YR 1986 TOTAL 686.88 MEAN 1.88 MAX 97 MIN .00 CFSM 2.44 IN. 33.18
WTR YR 1987 TOTAL 650.40 MEAN 1.78 MAX 34 MIN .00 CFSM 2.31 IN. 31.41

e Estimated

01400500 RARITAN RIVER AT MANVILLE, NJ

LOCATION.--Lat 40°33'18", long 74°35'02", Somerset County, Hydrologic Unit 02030105, on left bank at downstream side of bridge on North Main Street (Finderne Avenue) at Manville, and 1.4 mi upstream from Millstone River.
DRAINAGE AREA.--490 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1903 to March 1907 (published as "at Finderne"), August 1908 to April 1915 (gage heights only, published in WSP 521), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302.
REVISED RECORDS.--WSP 1552: 1904, 1906, 1922, 1923(M), 1924-25, 1926-29(M), 1930, 1932-33(M), 1924-54. WDR NJ-75-1: 1964(M), 1969(M), 1970(P), 1972(P), 1973(P).
GAGE.--Water-stage recorder. Datum of gage is 20.61 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1923, nonrecording gage on downstream side of highway bridge at same site and datum. From Oct. 1, 1952 to Sept. 30, 1966, water-stage recorder at station at Bound Brook, above Calco Dam (station 01403000) used as auxiliary gage when stage is above 5.0 ft. In Oct. 1, 1966, water-stage recorder at station at Bound Brook, used as auxiliary gage, was moved downstream to present site (station 01403060). Between June 9, 1978 and June 7, 1979, gage temporarily relocated at site 1.4 mi downstream, just upstream of Millstone River, because of reconstruction of highway bridge.
REMARKS.--No estimated daily discharges. Records good. Records given herein represent flow at gage only. Slight diurnal fluctuation at low flow. Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversion to Round Valley Reservoir since March 1966 (see Raritan River basin, diversions). Prior to Sept. 1, 1986, water diverted 1,500 ft upstream from station by Johns-Manville Corporation and returned to river 600 ft downstream from Millstone River (see Raritan River basin, diversions). Several measurements of water temperature were made during the year. National Weather Service and New Jersey Water Supply Authority operate gage-height telemeters at station.
AVERAGE DISCHARGE.--69 years, (water years 1904-06, 1922-87), 766 ft^3/s, unadjusted.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft^3/s, Aug. 28, 1971, gage height, 23.8 ft, from floodmark (backwater from Millstone River), from rating curve extended above 14,000 ft^3/s on basis of slope-area measurements at gage heights, 14.9 and 20.42 ft; minimum daily discharge, 17 ft^3/s, Sept. 19, 1964 (does not include water diverted to Johns-Manville Plant).
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 27	0700	14,400	14.77	Dec. 25	1415	13,100	13.99
Dec. 3	1145	11,600	13.45	Apr. 4	2330	*17,600	*16.17

Minimum discharge, 163 ft^3/s, Oct. 29, 30, gage height, 3.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	195	824	797	745	4100	2230	749	282	260	277	283
2	248	201	910	1980	639	5040	1010	664	359	483	242	301
3	234	216	8220	1820	953	2450	805	650	390	2040	334	230
4	276	206	2570	1270	1390	1840	8250	1380	869	547	282	220
5	283	221	1560	958	1110	1300	8920	1420	1690	328	448	244
6	243	533	1140	833	831	1100	4030	1010	566	264	1350	222
7	211	414	981	793	844	1130	3130	842	400	241	590	316
8	210	610	879	757	917	1280	2470	731	349	758	336	427
9	215	776	1770	685	900	1160	2070	646	351	929	288	884
10	210	445	2590	741	664	958	1760	602	337	596	2630	523
11	204	715	1450	1150	663	791	1270	558	289	343	1090	311
12	187	1400	1310	983	631	758	1060	522	250	369	540	270
13	225	606	1120	799	587	740	1040	496	275	580	389	1810
14	293	417	814	742	535	688	960	450	262	1150	325	2430
15	261	352	761	807	491	634	852	516	237	3200	293	847
16	206	329	717	887	492	589	859	598	238	891	267	558
17	208	301	687	713	619	549	1270	461	226	541	245	546
18	218	289	1950	785	528	463	1700	447	203	416	258	1230
19	220	1860	3320	1890	449	441	1100	537	215	369	243	1140
20	216	909	1560	1840	409	427	919	558	263	358	228	790
21	207	5560	1130	1170	380	409	836	580	405	319	228	593
22	203	1910	938	953	386	333	768	475	894	281	246	611
23	201	1060	826	921	480	318	690	424	614	243	261	637
24	188	991	763	753	486	356	815	402	272	293	225	497
25	184	895	8180	725	452	344	2700	369	219	996	220	418
26	231	2700	2830	754	449	337	1490	344	228	924	248	375
27	298	8320	1830	685	460	325	1040	337	761	779	465	333
28	221	2000	1340	576	455	367	1020	338	362	382	491	304
29	177	1310	1120	617	---	329	1070	328	240	277	530	293
30	185	1010	1000	633	---	299	924	307	207	299	362	324
31	200	---	917	762	---	2130	---	287	---	390	245	---
TOTAL	6933	36751	56007	29779	17945	31985	57058	18028	12253	19846	14176	17967
MEAN	224	1225	1807	961	641	1032	1902	582	408	640	457	599
MAX	298	8320	8220	1980	1390	5040	8920	1420	1690	3200	2630	2430
MIN	177	195	687	576	380	299	690	287	203	241	220	220

CAL YR 1986 TOTAL 329353 MEAN 902 MAX 11900 MIN 177
WTR YR 1987 TOTAL 318728 MEAN 873 MAX 8920 MIN 177

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-25, 1959, 1962-73, 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	1100	209	256	7.9	14.5	10.3	101	1.2	110	23
JAN 1987										
20...	1100	1830	270	7.8	1.0	14.2	100	1.4	>2400	1600
MAR										
26...	1130	365	238	9.8	14.0	13.0	127	2.5	<2	14
JUN										
01...	1115	295	261	8.0	28.0	8.2	105	2.0	79	23
JUL										
06...	1100	264	257	7.9	26.0	8.8	108	3.3	240	350
AUG										
24...	1030	229	--	7.9	22.5	9.0	--	1.1	70	48

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	95	23	9.2	13	2.6	72	24	19	<0.1
JAN 1987									
20...	57	14	5.4	24	1.6	35	23	40	<0.1
MAR									
26...	82	20	7.7	14	1.6	55	22	25	<0.1
JUN									
01...	92	22	8.9	14	1.9	66	24	21	0.1
JUL									
06...	86	21	8.1	14	2.4	60	24	25	<0.1
AUG									
24...	100	25	10	16	2.1	74	26	21	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	9.2	140	0.010	0.73	0.15	0.61	1.3	0.130	2.9
JAN 1987									
20...	9.4	140	0.021	1.58	0.24	0.78	2.4	0.280	5.0
MAR									
26...	4.7	130	0.031	0.81	0.06	0.82	1.6	0.051	3.4
JUN									
01...	11	140	0.049	1.19	0.07	0.40	1.6	0.123	3.5
JUL									
06...	11	140	0.030	1.56	0.11	0.98	2.5	0.130	5.0
AUG									
24...	6.4	150	0.015	0.67	0.14	0.63	1.3	0.090	--

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)
OCT 1986 08...	1100	80	0.1	0.9	4	<1	6	<10	4	4600

DATE	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 08...	10	200	0.03	<10	<1	30	<1	<1.0	<0.1	<1.0

DATE	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1986 08...	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 08...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01400540 MILLSTONE RIVER NEAR MANALAPAN, NJ

LOCATION.--Lat 40°15'44", long 74°25'13", Middlesex County, Hydrologic Unit 02030105, at bridge on State Route 33, 1.3 mi west of Manalapan, 5.5 mi east of Hightstown, and 8.4 mi above Rocky Brook.

DRAINAGE AREA.--7.37 mi^2.

PERIOD OF RECORD.--Water years 1960 to 1964, June 1981 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 15...	1120	E9.3	112	6.7	13.0	9.8	93	<0.8	40	540
FEB 1987 24...	1220	E14	216	6.7	2.5	12.2	90	<0.1	<20	9
MAR 17...	1145	E11	136	6.5	5.5	11.6	92	<0.8	<20	5
JUN 22...	1100	E5.7	111	7.0	20.0	7.9	88	E2.0	220	540
JUL 29...	1130	E7.0	114	6.5	20.0	8.4	93	<1.1	80	920
AUG 26...	1000	E4.2	111	7.1	16.5	7.8	80	E1.3	20	350

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 15...	31	6.3	3.7	5.7	3.4	15	15	13	0.2
FEB 1987 24...	32	6.6	3.7	18	2.0	4.0	19	33	0.1
MAR 17...	32	6.4	3.8	7.8	2.0	5.0	20	14	0.2
JUN 22...	29	5.8	3.6	5.3	2.6	13	10	11	0.2
JUL 29...	31	6.4	3.7	5.4	2.6	15	12	11	0.2
AUG 26...	37	7.9	4.2	6.5	2.2	17	12	12	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 15...	10	66	0.011	0.79	0.07	--	--	0.100	3.3
FEB 1987 24...	8.3	93	0.007	1.93	0.13	0.32	2.3	0.040	1.9
MAR 17...	8.1	65	0.013	2.08	0.12	0.30	2.4	0.033	1.7
JUN 22...	9.5	56	0.020	1.39	0.08	0.79	2.2	0.128	3.8
JUL 29...	8.8	59	0.012	1.14	0.09	0.81	2.0	0.122	5.4
AUG 26...	10	65	0.011	1.34	0.05	0.56	1.9	0.100	2.6

01400540 MILLSTONE RIVER NEAR MANALAPAN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 22...	1100	<0.5	<10	2	<10	<10	<1	30	1

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 22...	2900	<5	60	<0.10	6	<1	<10	1

01400650 MILLSTONE RIVER AT GROVERS MILL, NJ

LOCATION.--Lat 40°19'19", long 74°36'31", Mercer County, Hydrologic Unit 02030105, at bridge on Millstone Road in Grovers Mill, 0.3 mi upstream from Cranbury Brook, and 2.7 mi north of Dutch Neck.

DRAINAGE AREA.--43.4 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 16...	1300	E27	176	6.8	14.0	7.9	76	0.5	230	230
JAN 1987 22...	0910	E169	198	6.7	1.5	12.0	86	1.4	130	350
APR 09...	1000	E128	162	6.6	10.0	8.6	77	2.4	20	110
JUN 01...	1100	E30	214	6.9	24.5	5.1	61	3.5	230	130
JUL 07...	1215	E59	149	6.8	22.5	4.2	48	1.9	220	330
AUG 17...	1215	E32	158	6.8	25.5	4.5	55	1.0	200	500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 16...	45	11	4.2	13	5.5	20	19	18	0.3
JAN 1987 22...	42	9.7	4.3	18	3.0	8.0	23	33	0.1
APR 09...	46	12	3.8	10	3.2	8.0	25	19	0.2
JUN 01...	48	11	5.0	14	3.3	15	19	24	0.3
JUL 07...	40	9.6	3.9	8.6	3.4	15	18	15	0.2
AUG 17...	38	9.1	3.7	9.8	3.4	14	16	17	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 16...	3.5	86	0.010	3.58	<0.05	0.60	4.2	0.410	4.5
JAN 1987 22...	7.3	100	0.011	1.99	0.52	1.0	3.0	0.219	5.0
APR 09...	6.1	84	0.024	1.63	0.46	1.2	2.8	0.200	5.7
JUN 01...	8.4	94	0.300	2.79	1.44	1.9	4.7	0.456	6.2
JUL 07...	8.8	76	E0.074	1.84	0.46	0.85	2.7	0.340	7.5
AUG 17...	8.6	76	0.140	2.49	0.30	1.0	3.5	0.380	7.0

01400650 MILLSTONE RIVER AT GROVERS MILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 01...	1100	<0.5	20	1	<10	40	<1	180	9

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 01...	890	<5	40	<0.10	3	<1	10	<1

01400730 Millstone River at Plainsboro, N.J.

LOCATION.--Lat 40°19'27", long 74°36'51", Mercer County, Hydrologic Unit 02030105, on left bank 30 ft upstream from bridge on AMTRAK railroad, 100 ft downstream from Cranbury Road, 0.2 mi upstream from Bear Brook, and 0.9 mi southwest of Plainsboro.

DRAINAGE AREA.--65.8 mi^2.

PERIOD OF RECORD.--May 1964 to September 1975, March 26 to September 30, 1987.

GAGE.--Water-stage recorder and crest-stage gage. Operated as a crest-stage gage water years 1976-86. Datum of gage is 53.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Occasional diversion for irrigation above station.

AVERAGE DISCHARGE.--11 years (water years 1965-75), 94.5 ft^3/s, 19.50 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft^3/s, July 21, 1975, gage height, 8.96 ft; minimum daily, 1.9 ft^3/s, Aug. 10-13, 1966.

EXTREMES FOR PERIOD MAR. 26 TO SEPT. 30, 1987.--Maximum discharge, 1,860 ft^3/s, July 3, gage height, 6.14 ft; minimum, 14 ft^3/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	317	107	55	139	107	53
2	---	---	---	---	---	---	290	95	51	65	114	65
3	---	---	---	---	---	---	172	90	52	267	88	e55
4	---	---	---	---	---	---	360	137	56	1220	70	e48
5	---	---	---	---	---	---	730	256	93	1220	56	e41
6	---	---	---	---	---	---	475	241	86	486	63	e38
7	---	---	---	---	---	---	413	169	88	227	57	e45
8	---	---	---	---	---	---	274	120	68	125	39	e60
9	---	---	---	---	---	---	166	99	61	78	42	e70
10	---	---	---	---	---	---	142	87	74	63	435	e55
11	---	---	---	---	---	---	119	78	65	68	791	46
12	---	---	---	---	---	---	106	70	62	316	365	35
13	---	---	---	---	---	---	98	65	59	553	156	47
14	---	---	---	---	---	---	90	60	78	459	82	106
15	---	---	---	---	---	---	85	60	215	317	59	117
16	---	---	---	---	---	---	80	62	297	189	51	109
17	---	---	---	---	---	---	120	64	134	105	43	68
18	---	---	---	---	---	---	228	60	50	70	39	98
19	---	---	---	---	---	---	213	63	31	57	38	142
20	---	---	---	---	---	---	148	67	26	54	33	152
21	---	---	---	---	---	---	114	77	27	53	28	97
22	---	---	---	---	---	---	99	75	32	46	23	66
23	---	---	---	---	---	---	90	72	88	48	24	53
24	---	---	---	---	---	---	112	71	80	32	23	49
25	---	---	---	---	---	---	387	68	52	31	20	52
26	---	---	---	---	---	67	363	63	41	109	18	44
27	---	---	---	---	---	63	244	61	35	79	17	41
28	---	---	---	---	---	81	158	61	75	89	31	38
29	---	---	---	---	---	100	155	62	184	72	64	32
30	---	---	---	---	---	124	124	58	205	51	82	22
31	---	---	---	---	---	137	---	56	---	88	72	---
TOTAL	---	---	---	---	---	---	6472	2774	2520	6776	3130	1944
MEAN	---	---	---	---	---	---	216	89.5	84.0	219	101	64.8
MAX	---	---	---	---	---	---	730	256	297	1220	791	152
MIN	---	---	---	---	---	---	80	56	26	31	17	22
CFSM	---	---	---	---	---	---	3.28	1.36	1.28	3.32	1.53	.98
IN.	---	---	---	---	---	---	3.66	1.57	1.42	3.83	1.77	1.10

e Estimated

01401000 STONY BROOK AT PRINCETON, NJ

LOCATION.--Lat 40°19'59", long 74°40'56", Mercer County, Hydrologic Unit 02030105, at bridge on U.S. Highway 206, 1.6 mi southwest of Princeton, and 4.0 mi upstream from Carnegie Lake.

DRAINAGE AREA.--44.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 62.23 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--No estimated daily discharges. Records good. Since July 1959 some regulation by several small reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--34 years, 64.6 ft^3/s, 19.72 in./yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,960 ft^3/s, Aug. 28, 1971, gage height, 14.26 ft, from rating curve extended above 4,000 ft^3/s on basis of contracted-opening measurement of peak flow; no flow many days in August and September 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0445	2,060	7.02	Apr. 4	1900	3,560	9.40
Nov. 27	0130	2,250	7.39	July 3	0430	*3,680	*9.57
Dec. 3	0530	3,070	8.73	July 14	2215	2,280	7.46
Dec. 25	1000	3,220	8.94				

Minimum discharge, 1.1 ft^3/s, Oct. 12, 13, gage height, 1.28 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.5	39	51	61	929	176	53	6.6	14	13	3.7
2	2.4	2.6	111	374	59	634	77	46	7.7	403	9.7	2.9
3	2.3	2.4	1370	269	101	295	56	43	6.7	1170	10	2.6
4	4.1	2.9	191	150	175	194	1820	112	41	83	9.9	2.1
5	5.3	4.7	102	99	123	127	385	163	357	39	7.3	1.8
6	3.8	27	70	75	80	108	545	82	44	26	24	1.8
7	2.7	16	56	67	84	121	273	60	20	20	13	2.4
8	2.1	18	50	62	108	123	166	48	14	26	8.1	2.9
9	1.8	28	349	55	109	94	117	40	13	29	8.8	8.7
10	1.4	26	320	79	65	65	94	35	13	32	179	6.1
11	1.3	75	128	171	58	49	75	30	9.5	18	34	4.0
12	1.2	104	135	114	57	48	62	26	7.6	20	16	3.1
13	1.3	31	109	81	49	56	56	25	7.3	46	12	52
14	4.4	19	62	75	44	58	49	20	10	619	8.6	31
15	4.8	14	53	79	34	47	43	20	9.6	420	7.4	11
16	4.3	12	48	73	35	42	40	21	6.9	82	6.3	6.2
17	3.1	11	46	49	35	37	188	17	5.1	46	5.4	10
18	2.4	11	319	92	32	34	163	16	4.1	32	4.8	34
19	2.1	230	360	402	29	32	95	17	3.4	26	4.0	20
20	1.8	77	122	274	27	31	69	20	3.1	20	3.3	11
21	1.7	746	86	147	26	29	57	24	3.7	17	2.9	8.7
22	1.8	100	63	99	28	28	49	19	5.5	14	2.8	15
23	1.6	52	52	112	44	26	42	17	21	12	2.4	40
24	1.4	63	52	73	45	24	100	18	11	9.9	2.5	14
25	1.4	63	2590	61	41	23	621	14	6.3	8.5	2.3	9.5
26	3.9	268	235	67	42	21	162	12	4.9	45	2.1	7.2
27	3.5	643	131	54	47	21	98	11	12	53	9.9	5.9
28	5.4	114	102	54	49	32	91	12	10	22	12	5.0
29	3.7	70	79	50	---	34	119	11	6.0	14	8.3	4.7
30	3.1	50	67	47	---	27	78	9.0	4.4	10	5.9	5.3
31	2.7	---	59	71	---	308	---	7.6	---	12	3.9	---
TOTAL	84.7	2883.1	7556	3526	1687	3697	5966	1048.6	674.4	3388.4	439.6	332.6
MEAN	2.73	96.1	244	114	60.2	119	199	33.8	22.5	109	14.2	11.1
MAX	5.4	746	2590	402	175	929	1820	163	357	1170	179	52
MIN	1.2	2.4	39	47	26	21	40	7.6	3.1	8.5	2.1	1.8
CFSM	.06	2.16	5.48	2.56	1.35	2.68	4.47	.76	.51	2.46	.32	.25
IN.	.07	2.41	6.32	2.95	1.41	3.09	4.99	.88	.56	2.83	.37	.28

CAL YR 1986 TOTAL 26644.9 MEAN 73.0 MAX 2590 MIN .85 CFSM 1.64 IN. 22.27
WTR YR 1987 TOTAL 31283.3 MEAN 85.7 MAX 2590 MIN 1.2 CFSM 1.93 IN. 26.14

01401000 STONY BROOK AT PRINCETON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-75, 1978 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1956 to September 1962, October 1963 to September 1964, October 1965 to June 1970.
SUSPENDED-SEDIMENT DISCHARGE: January 1956 to June 1970.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
16...	1100	4.4	313	7.8	11.0	10.0	91	0.4	>2400	130
FEB 1987										
02...	1100	E61	230	7.4	0.0	15.8	109	0.7	23	21
APR										
02...	1155	75	169	7.6	9.5	12.5	110	--	--	--
16...	1130	40	183	8.4	10.0	12.6	112	2.1	--	--
JUN										
02...	1430	14	254	-	24.5	11.6	141	--	--	--
04...	1100	9.5	285	8.0	19.5	--	--	2.7	490	1300
JUL										
09...	1030	28	210	8.1	27.5	10.3	131	2.4	540	540
AUG										
03...	1330	18	228	8.5	25.0	11.0	135	1.8	5400	5400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
16...	100	24	10	24	4.2	84	27	30	0.2
FEB 1987									
02...	62	14	6.5	19	1.5	28	27	35	<0.1
APR									
02...	52	12	5.4	12	1.6	28	22	16	<0.1
16...	58	13	6.1	12	1.7	34	25	17	0.1
JUN									
02...	82	19	8.4	18	2.7	64	27	27	0.1
04...	87	20	8.9	19	2.9	67	27	27	0.3
JUL									
09...	59	14	5.9	13	2.8	40	22	14	0.1
AUG									
03...	72	17	7.1	16	2.8	52	23	21	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
16...	1.7	170	0.006	<0.05	<0.05	0.20	--	0.150	5.8
FEB 1987									
02...	13	130	0.009	1.37	0.11	0.35	1.7	0.043	2.2
APR									
02...	11	97	--	--	--	--	--	--	--
16...	10	110	0.008	0.82	<0.01	0.40	1.2	0.040	2.9
JUN									
02...	7.7	150	--	--	--	--	--	--	--
04...	6.8	150	0.006	0.06	0.10	0.92	0.98	0.099	4.8
JUL									
09...	9.3	110	E0.002	0.87	0.08	0.75	1.6	0.090	4.2
AUG									
03...	4.4	120	0.010	0.33	0.21	0.90	1.2	0.111	--

01401000 STONY BROOK AT PRINCETON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 16...	1100	<0.5	20	2	<10	120	<1	<10	7

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 16...	60	6	10	<0.10	<1	<1	390	4

01401440 MILLSTONE RIVER AT KINGSTON, NJ

LOCATION.--Lat 40°22'24", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at bridge on Lincoln Highway in Kingston, 0.2 mi downstream from the outflow of Carnegie Lake, and 3.0 mi northwest of Plainsboro.

DRAINAGE AREA.--172 mi^2, includes 8.0 mi^2 which drains into Delaware and Raritan Canal.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 15...	1300	E27	199	8.6	16.0	10.6	108	4.8	110	70
JAN 1987 27...	1100	E232	227	7.3	1.0	14.7	104	2.7	140	79
APR 09...	1300	E461	133	7.1	10.5	11.8	107	1.8	790	130
JUN 02...	1030	E41	208	7.8	26.0	7.6	94	5.1	20	490
JUL 08...	1330	E121	119	7.0	25.5	8.1	99	8.1	330	170
AUG 06...	1300	E113	--	6.9	25.5	7.2	--	3.1	490	330

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 15...	61	15	5.7	13	2.9	39	21	19	0.2
JAN 1987 27...	51	12	5.1	21	2.4	18	25	34	0.1
APR 09...	45	12	3.7	9.5	2.3	15	20	13	0.1
JUN 02...	60	14	6.1	13	2.6	31	19	22	0.2
JUL 08...	31	7.3	3.0	5.8	3.1	15	15	10	0.2
AUG 06...	46	11	4.5	10	3.4	25	16	15	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 15...	0.9	100	0.032	1.27	0.09	--	--	0.100	5.2
JAN 1987 27...	10	120	0.016	2.11	0.26	0.87	3.0	0.121	2.7
APR 09...	8.0	78	0.023	1.18	0.12	0.72	1.9	0.147	5.0
JUN 02...	2.8	98	0.085	1.42	0.21	1.0	2.5	0.068	5.2
JUL 08...	6.5	60	0.032	0.68	0.13	1.2	1.9	0.220	9.2
AUG 06...	6.1	81	0.022	0.85	0.81	1.0	1.9	0.270	8.5

01401440 MILLSTONE RIVER AT KINGSTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 15...	1300	--	0.1	1.2	--	--	3	--	--	--	<1
JUN 1987 02...	1030	<0.5	--	--	<10	1	--	<10	10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 15...	--	6	<10	--	10	--	3700	--	20	--	150
JUN 1987 02...	30	--	--	3	--	230	--	<5	--	40	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 15...	--	0.04	--	<10	--	<1	--	80	--	3	<1.0
JUN 1987 02...	<0.10	--	1	--	<1	--	<10	--	<1	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 15...	<0.1	4.0	2.0	1.8	2.5	<0.1	0.5	<0.1	<0.1	<0.1	<0.1
JUN 1987 02...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 15...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<1.00	<10	<0.1
JUN 1987 02...	--	--	--	--	--	--	--	--	--	--	--

01401600 BEDEN BROOK NEAR ROCKY HILL, NJ

LOCATION.--Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206 at State Route 533, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD.--Water years 1959-63, 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
14...	1030	E3.4	315	7.3	16.0	6.1	62	2.5	2200	2400
JAN 1987										
22...	1100	E164	160	7.5	0.0	13.3	92	1.2	--	--
APR										
02...	0945	E120	149	7.3	7.5	12.3	103	--	--	--
09...	1030	E202	142	7.5	10.0	11.1	99	1.1	49	70
MAY										
27...	1030	E11	240	7.5	15.5	8.5	84	2.7	330	1300
JUN										
02...	1030	E6.9	189	7.1	21.5	6.2	71	--	--	--
JUL										
08...	1030	E31	185	7.5	21.5	8.4	95	4.2	>2400	>2400
AUG										
03...	1030	E9.5	150	6.8	22.5	6.2	72	4.0	>24000	>24000

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
14...	100	24	9.7	22	3.4	73	36	27	0.1
JAN 1987									
22...	49	11	5.3	11	1.4	23	22	16	<0.1
APR									
02...	48	11	5.1	9.7	1.4	25	20	12	<0.1
09...	52	13	4.7	8.9	1.6	24	22	10	<0.1
MAY									
27...	77	18	7.8	14	2.1	53	31	19	<0.1
JUN									
02...	68	17	6.2	13	3.3	41	24	20	0.1
JUL									
08...	59	14	5.9	9.3	2.3	39	21	11	0.1
AUG									
03...	39	9.2	4.0	7.3	2.1	23	16	9.8	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
14...	3.5	170	0.086	0.97	0.13	--	--	0.640	5.0
JAN 1987									
22...	13	93	0.006	1.20	0.03	0.40	1.6	0.090	3.4
APR									
02...	13	88	--	--	-	--	--	--	--
09...	13	88	0.010	1.45	0.08	0.50	2.0	0.070	2.3
MAY									
27...	7.7	130	0.071	1.37	0.11	--	1.4	0.223	3.6
JUN									
02...	4.8	110	--	--	-	--	--	--	6.3
JUL									
08...	13	100	0.042	1.49	0.17	1.0	2.5	0.190	5.3
AUG									
03...	5.3	68	0.040	1.30	0.76	1.5	2.8	0.408	--

01401600 BEDEN BROOK NEAR ROCKY HILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 14...	1030	0.8	20	2	<10	80	<1	<10	11
MAY 1987 27...	1030	<0.5	20	<1	<10	50	<1	<10	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 14...	210	<5	50	0.10	5	<1	30	3
MAY 1987 27...	140	<5	20	<0.10	<1	<1	<10	<1

01401650 PIKE RUN AT BELLE MEAD, NJ

LOCATION.--Lat 40°28'05", long 74°38'57", Somerset County, Hydrologic Unit 02030105, on right bank 20 ft upstream of bridge on Township Line Road, 0.7 mi east of Belle Mead, 0.8 mi upstream of Cruser Brook, and 1.0 mi downstream of bridge on U.S. Route 206.

DRAINAGE AREA.--5.36 mi^2.

PERIOD OF RECORD.--July 1980 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete parking-block control. Datum of gage is 58.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for period of estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Recording rain-gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--7 years, 10.07 ft^3/s, 22.22 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,010 ft^3/s, July 7, 1984, gage height, 11.76 ft; no flow many days in August and September 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810, 13.5 ft, from floodmark, present datum, Aug. 28, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0215	607	6.97	Apr. 4	1600	747	7.61
Nov. 26	2245	770	7.71	July 3	0200	430	6.11
Dec. 3	0300	712	7.45	July 14	1945	*933	*8.41
Dec. 25	0530	712	7.45	Aug. 10	0515	410	6.01

Minimum discharge, 0.21 ft^3/s, Oct. 23, 24, 25, gage height, 2.70 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.38	4.2	4.0	e6.6	e150	12	4.8	.65	2.2	3.1	.80
2	.66	.49	46	48	e7.0	e51	6.3	4.4	1.8	36	2.8	.61
3	1.0	.57	229	24	17	e20	5.0	4.0	.99	77	6.2	.50
4	1.7	.65	15	12	21	e12	262	13	49	5.4	2.8	.44
5	.83	2.5	8.4	7.5	12	e9.3	25	12	25	3.0	2.1	.44
6	.72	12	6.4	5.9	e7.5	e7.3	36	7.6	4.5	2.0	7.4	.47
7	.60	2.7	5.9	6.0	e7.0	e6.7	19	5.5	2.8	1.6	2.7	.71
8	.52	12	5.3	6.5	e7.7	e6.8	10	4.5	2.1	47	2.0	1.5
9	.55	8.5	56	5.5	e8.4	e5.9	7.4	3.7	2.9	7.9	1.9	5.6
10	.57	5.5	22	14	e6.5	e4.6	6.2	3.2	2.2	4.0	95	1.2
11	.50	23	11	18	e5.3	e3.9	5.3	2.8	1.3	2.8	7.0	.77
12	.46	13	14	9.7	e5.2	e4.1	4.7	2.6	1.2	10	4.6	.66
13	.48	5.4	9.4	6.9	e4.7	e4.5	4.6	2.3	1.2	3.1	3.4	15
14	3.6	3.3	6.0	5.7	e4.3	e3.7	4.0	2.1	.99	193	2.9	3.3
15	1.3	2.9	5.3	6.1	e3.7	e3.4	3.7	2.3	.81	25	2.0	1.4
16	.71	2.6	4.8	5.3	e3.3	e3.1	3.5	2.1	.65	6.9	1.6	1.3
17	.61	2.2	4.8	4.0	e3.2	3.6	12	1.7	.52	4.5	1.3	1.8
18	.48	2.9	61	14	e3.2	3.4	9.6	1.6	.44	3.1	1.1	7.1
19	.55	48	23	38	e3.0	3.2	6.0	2.2	.46	2.5	.94	6.1
20	.53	32	10	19	e2.8	3.0	4.9	2.6	.43	2.1	.88	3.1
21	.49	145	7.6	12	e2.8	2.8	4.3	4.2	4.4	1.7	.75	2.2
22	.40	10	5.8	e8.4	e2.9	2.8	3.8	2.0	8.0	1.3	.86	5.4
23	.25	6.4	5.0	e7.7	e3.6	2.6	3.3	1.8	4.0	1.1	.79	6.1
24	.25	9.3	5.6	e6.7	e4.8	2.5	10	1.6	1.3	1.1	.63	2.5
25	.29	7.0	210	e5.7	e4.6	2.4	79	1.3	.82	6.9	.60	1.8
26	2.1	157	15	e5.5	e4.9	2.3	11	1.1	.66	23	.64	1.4
27	2.4	76	8.9	e5.3	e5.1	2.2	6.9	1.1	3.3	5.6	5.2	1.2
28	.95	11	7.0	e6.2	e5.8	3.6	9.7	1.1	1.2	2.6	3.4	1.0
29	.66	7.3	5.8	e6.4	---	2.9	8.7	.97	.71	1.6	2.4	.91
30	.50	5.5	5.4	e6.0	---	2.6	6.2	.80	.55	4.4	1.1	1.4
31	.45	---	4.7	e6.3	---	34	---	.67	---	11	.82	---
TOTAL	25.85	615.09	828.3	336.3	173.9	370.2	590.1	101.64	124.88	499.4	168.91	76.71
MEAN	.83	20.5	26.7	10.8	6.21	11.9	19.7	3.28	4.16	16.1	5.45	2.56
MAX	3.6	157	229	48	21	150	262	13	49	193	95	15
MIN	.25	.38	4.2	4.0	2.8	2.2	3.3	.67	.43	1.1	.60	.44
CFSM	.16	3.83	4.98	2.02	1.16	2.23	3.67	.61	.78	3.01	1.02	.48
IN.	.18	4.27	5.75	2.33	1.21	2.57	4.10	.71	.87	3.47	1.17	.53

CAL YR 1986 TOTAL 3587.43 MEAN 9.83 MAX 255 MIN .15 CFSM 1.83 IN. 24.89
WTR YR 1987 TOTAL 3911.23 MEAN 10.7 MAX 262 MIN .25 CFSM 2.00 IN. 27.14

e Estimated

01402000 MILLSTONE RIVER AT BLACKWELLS MILLS, NJ

LOCATION.--Lat 40°28'30", long 74°34'34", Somerset County, Hydrologic Unit 02030105, on left bank 30 ft downstream from highway bridge at Blackwells Mills, and 0.3 mi downstream from Six Mile Run.

DRAINAGE AREA.--258 mi^2.

PERIOD OF RECORD.--June 1903 to December 1904 (gage heights only), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at Millstone" 1903-04.

REVISED RECORDS.--WSP 1552: 1924-25(M), 1926.

GAGE.--Water-stage recorder. Concrete control since Nov. 18, 1933. Datum of gage is 26.97 ft above National Geodetic Vertical Datum of 1929. June 27, 1903 to Dec. 31, 1904, nonrecording gage at bridge 2.0 mi downstream at Millstone at different datum. Aug. 4, 1921 to Aug. 16, 1928, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good except those above 1,200 ft^3/s, which are poor. Inflow from and losses to Delaware and Raritan Canal above station. Flow slightly regulated by Carnegie Lake, capacity, 310,000,000 gal and several smaller reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature were made during the year. National Weather Service and New Jersey Water Supply Authority operate gage-height telemeters at station.

AVERAGE DISCHARGE.--66 years, 376 ft^3/s, 19.79 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,200 ft^3/s, Aug. 28, 1971, gage height, 18.68 ft, from high-water mark; minimum, about 5 ft^3/s, Sept. 16, 1923.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	1730	3,820	9.34	Apr. 5	0530	*5,460	*11.02
Dec. 25	2215	3,750	9.26	July 3	2245	3,580	9.01
Mar. 2	0845	3,310	8.59	July 15	0900	3,870	9.40

Minimum discharge, 50 ft^3/s, Sept. 30, gage height, 1.57 ft, Oct. 9, June 18, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	157	418	358	368	1540	1030	370	105	170	276	106
2	115	160	455	1400	374	3120	662	318	119	715	242	95
3	115	164	3140	2010	512	2330	450	297	120	2710	281	109
4	135	166	2560	1640	749	1270	2190	472	213	2910	226	101
5	143	175	1080	866	697	735	4540	763	763	1100	179	81
6	125	352	612	584	568	605	2530	615	315	388	335	72
7	112	300	473	507	503	568	1930	463	206	307	247	77
8	105	335	382	463	539	551	1090	356	174	468	190	81
9	122	400	932	425	569	479	667	301	155	376	161	154
10	128	370	1820	471	465	388	530	262	166	252	960	138
11	136	520	1200	760	416	325	434	233	151	267	1200	107
12	137	850	914	685	393	301	370	214	136	413	896	84
13	139	538	721	540	365	333	346	193	129	706	391	320
14	176	452	525	444	324	358	325	180	139	1480	236	330
15	180	325	425	405	293	323	297	176	155	3540	178	243
16	173	270	386	404	252	285	280	172	286	1940	153	206
17	172	241	364	366	253	254	503	165	161	672	135	181
18	166	224	739	427	252	235	754	155	87	429	121	331
19	164	1020	1790	1100	241	223	569	166	82	300	106	325
20	164	714	1030	1430	231	206	436	170	78	235	93	297
21	165	2280	700	1050	232	197	354	197	91	202	77	171
22	168	1640	512	684	241	192	309	180	181	187	69	120
23	167	704	409	551	292	186	273	164	192	172	67	140
24	165	597	361	480	335	180	338	164	190	161	60	101
25	162	524	2670	482	335	175	1950	150	145	248	56	66
26	178	795	2790	376	337	168	1590	141	115	484	55	63
27	213	2660	1200	334	341	161	746	135	184	443	136	63
28	197	1600	705	309	340	194	580	138	216	287	169	59
29	184	750	543	300	---	229	558	130	261	238	180	55
30	170	550	453	307	---	223	461	121	234	328	155	53
31	160	---	406	387	---	665	---	112	---	379	124	---
TOTAL	4753	19833	30715	20545	10817	16999	27092	7673	5549	22507	7754	4329
MEAN	153	661	991	663	386	548	903	248	185	726	250	144
MAX	213	2660	3140	2010	749	3120	4540	763	763	3540	1200	331
MIN	105	157	361	300	231	161	273	112	78	161	55	53
CFSM	.59	2.56	3.84	2.57	1.50	2.13	3.50	.96	.72	2.81	.97	.56
IN.	.69	2.86	4.43	2.96	1.56	2.45	3.91	1.11	.80	3.25	1.12	.62

CAL YR 1986 TOTAL 150383 MEAN 412 MAX 5960 MIN 32 CFSM 1.60 IN. 21.67
WTR YR 1987 TOTAL 178566 MEAN 489 MAX 4540 MIN 53 CFSM 1.90 IN. 25.73

01402540 MILLSTONE RIVER AT WESTON, NJ

LOCATION.--Lat 40°31'47", long 74°35'19", Somerset County, Hydrologic Unit 02030105, at bridge on Wilhouski Street in Weston, 50 ft upstream from Royce Brook, 0.8 mi southwest of Alma White College, and 1.9 mi north of Millstone.

DRAINAGE AREA.--271 mi^2, includes approximately 13 mi^2 which drains into Delaware and Raritan canal.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 15...	1030	E203	250	7.4	15.5	8.5	85	2.8	1100	490
JAN 1987 26...	1100	E371	226	7.4	0.0	14.6	101	0.9	--	--
APR 08...	1115	E952	135	7.1	10.0	9.8	88	1.9	790	330
JUN 03...	1030	E148	268	7.3	24.5	5.7	68	2.0	1300	170
JUL 07...	1030	E325	143	6.9	23.5	6.5	76	2.7	230	490
AUG 06...	1030	E385	203	6.9	24.0	5.7	68	2.0	2400	3500

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 15...	79	18	8.3	16	3.5	49	28	23	0.2
JAN 1987 26...	51	12	5.2	19	2.3	23	28	33	0.2
APR 08...	38	9.0	3.7	9.2	2.0	17	20	13	0.1
JUN 03...	79	17	8.9	17	3.0	47	33	25	0.3
JUL 07...	41	9.2	4.3	7.6	3.2	21	19	11	0.2
AUG 06...	62	14	6.5	13	3.5	35	24	17	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 15...	2.9	130	0.019	2.26	0.06	--	--	0.330	4.6
JAN 1987 26...	11	120	--	--	--	--	--	--	4.9
APR 08...	9.0	76	E0.017	1.18	0.22	1.2	2.4	0.200	7.4
JUN 03...	5.7	140	0.038	1.78	0.20	1.0	2.8	0.420	4.2
JUL 07...	7.6	75	E0.015	1.30	0.17	1.1	2.4	0.280	7.0
AUG 06...	8.6	110	0.019	1.67	0.11	1.0	2.7	0.270	6.9

01402540 MILLSTONE RIVER AT WESTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
JUN 1987 03...	1030	<0.5	10	2	<10	60	<1	<10	6

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 03...	210	<5	70	<0.10	4	<1	<10	<1

01402600 ROYCE BROOK TRIBUTARY NEAR BELLE MEAD, NJ

LOCATION.--Lat 40°29'56", long 74°39'05", Somerset County, Hydrologic Unit 02030105, on right bank 25 ft upstream from bridge on State Highway 514 (Amwell Road), 1,200 ft upstream from mouth, and 2.0 mi north of Belle Mead.

DRAINAGE AREA.--1.20 mi^2.

PERIOD OF RECORD.--October 1966 to September 1974, January 1980 to current year.

REVISED RECORDS.--WRD NJ-69: 1967, 1968. WDR NJ-85-1: 1980-84(P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 66.98 ft above National Geodetic Vertical Datum of 1929. Prior to September 1974 at same site at datum 0.79 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Some regulation from storm-water detention basin 542 ft upstream of gage since 1980. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--15 years (water years 1967-74, 1981-87), 2.50 ft^3/s, 28.30 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,450 ft^3/s, Aug. 28, 1971, gage height, 7.80 ft, present datum, from high-water mark, from rating curve extended above 203 ft^3/s on basis of slope-area measurement of peak flow; no flow part of or all of some days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 125 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2300	207	4.26	July 8	0415	147	3.84
Nov. 26	1930	*454	*5.38	July 14	1615	417	5.25
Dec. 3	0030	180	4.08	July 30	1700	138	3.77
Dec. 25	0230	205	4.25	Aug. 3	0915	230	4.40
Apr. 4	1230	203	4.24	Aug. 10	0230	205	4.25
July 2	2245	162	3.95				

Minimum discharge, 0.05 ft^3/s, Oct. 10, 11, gage height, 2.00 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	.16	1.1	.95	1.3	35	2.6	.79	.22	4.1	1.5	.49
2	.45	.32	22	16	2.2	7.1	1.6	.78	1.1	14	1.9	.35
3	.70	.20	38	7.2	6.3	3.2	1.4	.87	.51	10	26	.24
4	.74	.34	3.3	3.3	6.8	1.9	56	5.2	25	1.5	2.6	.19
5	.45	2.9	1.8	1.8	3.3	1.3	5.8	2.9	6.4	.86	2.8	.17
6	.36	6.4	1.2	1.4	2.1	1.1	9.5	1.6	1.6	.74	5.1	.34
7	.18	.88	1.1	1.3	2.9	1.1	5.3	1.0	.91	.65	1.7	.50
8	.15	7.5	.86	1.3	2.6	1.0	2.7	.87	.76	18	1.3	3.3
9	.14	2.2	17	1.2	2.3	.89	1.8	.78	1.3	7.0	8.8	3.3
10	.08	1.1	4.9	4.5	1.3	.72	1.4	.72	.66	1.6	39	.43
11	.08	13	2.7	5.5	1.2	.63	1.1	.65	.51	1.0	2.7	.24
12	.12	3.2	3.7	2.3	1.2	.75	.95	.63	.63	3.5	1.5	.21
13	.38	1.3	1.8	1.5	1.1	1.1	.94	.55	.54	.94	1.1	19
14	2.4	.88	1.2	1.2	1.0	.84	.74	.52	.53	55	1.0	1.6
15	.46	.78	1.1	1.2	.81	.70	.71	1.3	.53	6.5	.92	.66
16	.29	.63	1.0	1.0	.61	.58	.68	.54	.49	2.0	.85	.42
17	.24	.56	.91	.88	.64	.50	3.0	.49	.46	1.1	.68	2.3
18	.22	4.8	18	5.5	.72	.45	2.0	.64	.41	.82	.59	3.2
19	.18	16	4.8	12	.67	.45	1.1	.93	.42	.78	.49	3.5
20	.18	20	1.8	5.3	.64	.42	.87	1.3	.42	.75	.46	1.2
21	.18	23	1.2	2.8	.65	.39	.74	1.1	2.5	.66	.38	.64
22	.16	2.4	1.0	2.0	.70	.37	.64	.59	4.3	.57	.73	5.0
23	.17	1.7	.94	1.5	1.4	.37	.59	.60	1.2	.55	.37	1.9
24	.16	3.0	3.9	1.1	1.5	.33	8.7	.42	.64	2.7	.30	.75
25	.13	1.8	44	1.0	1.4	.31	12	.36	.49	3.0	.28	.49
26	2.3	61	3.5	1.0	1.6	.32	2.5	.31	.48	19	.30	.36
27	.73	10	1.9	.85	1.5	.29	1.4	.61	1.8	2.0	5.0	.26
28	.35	2.8	1.4	.78	1.9	.90	2.8	.31	.56	1.1	3.8	.23
29	.25	1.8	1.1	.76	---	.47	1.6	.26	.45	.85	1.3	.21
30	.26	1.4	1.1	1.3	---	.71	1.0	.24	.44	13	.72	.92
31	.16	---	.96	1.7	---	10	---	.25	---	5.1	.54	---
TOTAL	13.07	192.05	189.27	90.12	50.34	74.19	132.16	28.11	56.26	179.37	114.71	52.40
MEAN	.42	6.40	6.11	2.91	1.80	2.39	4.41	.91	1.88	5.79	3.70	1.75
MAX	2.4	61	44	16	6.8	35	56	5.2	25	55	39	19
MIN	.08	.16	.86	.76	.61	.29	.59	.24	.22	.55	.28	.17
CFSM	.35	5.33	5.09	2.42	1.50	1.99	3.67	.76	1.56	4.82	3.08	1.46
IN.	.41	5.95	5.87	2.79	1.56	2.30	4.10	.87	1.74	5.56	3.56	1.62

CAL YR 1986 TOTAL 1068.89 MEAN 2.93 MAX 61 MIN .00 CFSM 2.44 IN. 33.13
WTR YR 1987 TOTAL 1172.03 MEAN 3.21 MAX 61 MIN .08 CFSM 2.68 IN. 36.32

01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ

LOCATION.--Lat 40°33'05", long 74°32'54", Somerset County, Hydrologic Unit 02030105, on right bank 1,000 ft downstream from Calco Dam and Cuckold Brook, 1,400 ft upstream of bridge on Interstate 287, 1.2 mi downstream from Millstone River, and 1.2 mi southwest of Bound Brook.

DRAINAGE AREA.--785 mi^2 (includes 11 mi^2 which drains into the Delaware and Raritan Canal).

PERIOD OF RECORD.--September 1903 to March 1909, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1966 published as "Raritan River at Bound Brook" (station 01403000).

REVISED RECORDS.--WSP 1552: 1903-07, 1946(M), 1949, 1952(P).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Sept. 12, 1903 to Mar. 31, 1909, nonrecording gages at highway bridge, 1.2 mi downstream at different datum. October 1944 to Sept. 30, 1966, water-stage recorder and concrete control at site 1,000 ft upstream at datum 18.06 ft higher.

REMARKS.--No estimated daily discharges. Records good. Water diverted 1.2 mi above station by Elizabethtown Water Co. for municipal supply (see Raritan River basin, diversions). Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversions to and releases from Round Valley Reservoir (see Raritan River basin, diversions and station 01399690). Slight diurnal fluctuations at low flow. Several measurements of water temperature were made during the year. New Jersey Water Supply Authority gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years, (water years 1904-08, 1945-87), 1,282 ft^3/s, adjusted for diversion by Elizabethtown Water Co. since 1944, and change in contents in Spruce Run Reservoir since 1964 and Round Valley Reservoir since 1966.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,100 ft^3/s, Aug. 28, 1971, elevation, 37.47 ft, from floodmark; minimum daily, 37 ft^3/s, Sept. 6, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)	Date	Time	Discharge (ft^3/s)	Elevation (ft)
Nov. 27	0900	16,400	27.56	Dec. 25	1800	15,000	26.98
Dec. 3	1400	15,000	26.97	Apr. 5	0330	*21,100	*29.36

Minimum discharge, 101 ft^3/s, Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	152	1220	1120	1000	4970	3490	1090	238	298	435	247
2	172	173	1320	3230	974	8360	1720	952	319	1030	354	254
3	166	206	11600	3920	1390	5210	1240	913	387	4470	606	196
4	221	203	6050	3070	2110	3150	8300	1600	924	4010	406	180
5	243	227	2720	1920	1830	2100	15400	2080	2470	1700	479	188
6	194	761	1800	1420	1410	1720	7610	1610	893	630	1440	170
7	147	564	1450	1280	1340	1680	5600	1260	555	475	763	248
8	126	833	1240	1190	1440	1820	3630	1040	427	1350	421	345
9	135	1170	2370	1080	1470	1630	2560	894	390	1400	332	814
10	138	715	4710	1170	1100	1310	2050	807	387	827	3770	513
11	148	1080	2730	1940	1060	1080	1690	717	318	571	2180	276
12	149	2330	2310	1710	995	1020	1430	650	265	758	1440	231
13	189	1120	1910	1330	922	1040	1340	591	274	1170	711	1780
14	308	784	1340	1150	797	1020	1240	512	278	3010	421	2210
15	290	554	1150	1160	703	936	1110	567	250	7310	327	916
16	205	452	1050	1220	568	848	1090	653	361	3290	271	623
17	200	415	995	981	701	797	1500	490	267	1220	238	592
18	213	376	2230	1120	688	695	2310	440	153	790	236	1220
19	201	2910	5620	2690	608	666	1700	556	141	587	217	1180
20	191	1690	2620	3280	561	633	1340	588	140	473	192	865
21	193	8570	1870	2310	547	588	1150	657	304	362	171	587
22	193	3900	1440	1710	559	498	1040	569	788	306	189	560
23	184	1810	1200	1440	693	462	926	494	780	252	207	623
24	186	1580	1080	1080	777	494	1040	468	356	304	157	424
25	183	1420	9890	1030	750	472	4500	410	246	1140	150	306
26	258	3390	6670	1070	757	460	3260	365	229	1370	175	249
27	371	12100	3030	925	764	437	1870	343	807	1240	477	217
28	262	3900	2080	790	770	517	1610	342	494	623	571	180
29	204	2120	1660	818	---	524	1610	322	388	382	591	168
30	198	1580	1430	865	---	465	1350	278	319	424	409	192
31	193	---	1280	1090	---	2470	---	252	---	762	250	---
TOTAL	6271	57085	88065	49109	27284	48072	84706	22510	14148	42534	18586	16554
MEAN	202	1903	2841	1584	974	1551	2824	726	472	1372	600	552
MAX	371	12100	11600	3920	2110	8360	15400	2080	2470	7310	3770	2210
MIN	126	152	995	790	547	437	926	252	140	252	150	168

CAL YR 1986 TOTAL 458660 MEAN 1257 MAX 18200 MIN 120
WTR YR 1987 TOTAL 474924 MEAN 1301 MAX 15400 MIN 126

01403150 WEST BRANCH MIDDLE BROOK NEAR MARTINSVILLE, NJ

LOCATION.--Lat 40°36'44", long 74°35'28", Somerset County, Hydrologic Unit 02030105, on left bank 150 ft upstream from bridge on Crim Road, 1.4 mi northwest of Martinsville, and 1.8 mi upstream from confluence with East Branch Middle Brook.

DRAINAGE AREA.--1.99 mi^2.

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 240.48 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--No estimated daily discharges. Records fair. Several measurements of water temperature were made during the year. Recording rain-gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--8 years, 3.20 ft^3/s, 21.84 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 816 ft^3/s, May 11, 1981, gage height, 5.60 ft; no flow part or all of each day Sept. 19-30, 1980 and June 29, 30, July 8,9, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 225 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2330	384	4.81	June 4	1915	240	4.37
Nov. 26	1930	*606	*5.32	June 22	1400	338	4.68
Dec. 3	0030	298	4.56	July 2	2330	292	4.54
Dec. 25	0300	439	4.95	July 14	1645	373	4.78
Apr. 4	1245	355	4.73	July 26	1245	305	4.58

Minimum, 0.04 ft^3/s, Oct. 18, 19, 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.19	.89	1.3	1.9	66	4.4	1.6	.25	.60	.37	.12
2	.44	.20	33	23	2.9	23	2.4	1.5	.53	11	.44	.11
3	.68	.19	55	7.5	6.8	7.6	1.9	2.0	.30	20	.43	.12
4	.29	.23	3.6	3.5	6.2	4.2	83	11	37	1.1	.34	.10
5	.23	2.0	1.9	2.2	3.3	3.2	7.1	4.6	7.1	.56	11	.09
6	.19	3.8	1.4	1.8	2.5	4.0	23	2.7	1.1	.37	7.3	.09
7	.23	.49	1.3	1.9	3.3	5.5	10	2.0	.72	.33	.68	.14
8	.24	9.4	1.1	1.8	3.0	4.1	4.4	1.7	.60	20	.46	2.9
9	.24	1.5	20	1.5	3.0	2.9	3.2	1.5	.56	14	.64	1.8
10	.24	.77	7.1	4.8	2.0	2.0	2.6	1.3	.38	1.7	18	.15
11	.25	16	2.8	8.0	1.7	1.7	2.3	1.2	.33	.91	.83	.11
12	.24	2.3	4.4	3.2	1.7	1.9	2.1	1.1	.45	.64	.55	.08
13	.33	1.1	2.1	2.5	1.4	2.6	2.0	.96	.31	.56	.46	12
14	.60	.89	1.3	2.6	1.3	2.1	1.7	.90	.24	46	.44	.49
15	.09	.85	1.3	4.4	1.1	1.7	1.6	2.9	.22	5.8	.41	.20
16	.08	.79	1.3	2.4	1.2	1.5	1.6	1.0	.20	1.3	.34	.17
17	.08	.62	1.4	1.6	1.1	1.4	9.9	.77	.19	.76	.30	2.2
18	.04	5.4	30	8.7	1.1	1.3	5.3	.98	.19	.56	.24	1.5
19	.04	28	7.3	15	.95	1.3	2.7	1.1	.22	.50	.21	1.3
20	.05	29	2.6	5.7	.92	1.2	2.2	.93	.22	.49	.20	.41
21	.06	35	1.9	3.2	1.0	1.2	1.9	.91	4.8	.52	.18	.31
22	.10	2.1	1.4	3.6	1.2	1.1	1.6	.64	23	.50	.21	.38
23	.12	1.3	1.3	2.8	1.8	1.0	1.4	.63	1.1	.45	.17	.31
24	.15	2.5	4.7	1.8	1.6	.97	7.7	.52	.34	11	.17	.24
25	.13	1.4	72	1.8	1.6	.89	17	.45	.21	2.1	.17	.22
26	.45	88	4.1	1.8	1.7	.95	3.2	.39	.17	19	.17	.21
27	.14	10	2.5	1.5	1.5	.82	2.2	.38	18	1.3	2.2	.19
28	.16	2.5	2.0	1.6	2.1	1.6	3.5	.38	.87	.54	.54	.22
29	.19	1.7	1.7	1.4	---	1.0	2.9	.34	.40	.36	1.2	.27
30	.19	1.2	1.7	2.3	---	2.1	2.2	.30	.84	.37	.15	.52
31	.19	---	1.4	2.7	---	27	---	.29	---	.41	.10	---
TOTAL	6.79	249.42	274.49	127.9	59.87	177.83	217.0	46.97	100.84	163.73	48.90	26.95
MEAN	.22	8.31	8.85	4.13	2.14	5.74	7.23	1.52	3.36	5.28	1.58	.90
MAX	.68	88	72	23	6.8	66	83	11	37	46	18	12
MIN	.04	.19	.89	1.3	.92	.82	1.4	.29	.17	.33	.10	.08
CFSM	.11	4.18	4.45	2.07	1.07	2.88	3.63	.76	1.69	2.65	.79	.45
IN.	.13	4.66	5.13	2.39	1.12	3.32	4.06	.88	1.89	3.06	.91	.50

CAL YR 1986 TOTAL 1490.11 MEAN 4.08 MAX 139 MIN .04 CFSM 2.05 IN. 27.84
WTR YR 1987 TOTAL 1500.67 MEAN 4.11 MAX 88 MIN .04 CFSM 2.07 IN. 27.03

01403300 RARITAN RIVER AT QUEENS BRIDGE AT BOUND BROOK, NJ
(National stream-quality accounting network)

LOCATION.--Lat 40°33'34", long 74°31'41", Somerset County, Hydrologic Unit 02030105, at Queens Bridge on Main street in Bound Brook, 1.7 mi upstream of Fieldsville Dam.

DRAINAGE AREA.--804 mi^2.

PERIOD OF RECORD.--Water years 1964 to 1969, 1971 to 1973, 1978 and November 1981 to present. Published as "at Bound Brook" (station 01403000) 1964-66, and as "below Calco Dam at Bound Brook" (station 01403060) 1967-69.

REMARKS.--Instantaneous discharges are determined at Raritan River below Calco Dam at Bound Brook (station 01403060).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
DEC 1986												
03...	1100	E11800	99	7.2	8.0	80	11.8	101	3.5	1500	K37000	33
FEB 1987												
19...	1130	E620	315	7.7	2.5	3.0	15.4	112	3.1	K4	130	92
APR												
28...	1030	E1640	190	7.6	12.5	4.5	9.6	90	2.1	660	380	62
SEP												
04...	1030	E184	290	7.8	20.5	2.9	9.6	106	3.1	770	110	88

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
DEC 1986											
03...	8.1	3.1	4.9	2.6	--	--	--	17	8.1	0.1	6.8
FEB 1987											
19...	23	8.3	26	2.2	--	--	--	41	39	0.2	11
APR											
28...	15	5.9	12	1.8	57	47	50	24	17	0.1	9.0
SEP											
04...	21	8.5	20	3.8	65	53	54	42	26	0.3	3.4

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
DEC 1986											
03...	63	136	93	<0.010	0.970	0.140	0.070	0.80	0.270	0.100	0.070
FEB 1987											
19...	180	11	82	0.040	2.40	0.720	0.710	1.7	0.260	0.150	0.120
APR											
28...	110	21	90	0.030	1.20	0.100	0.090	0.90	0.110	0.070	0.050
SEP											
04...	160	11	90	0.020	2.20	0.330	0.340	1.3	0.310	0.280	0.240

01403300 RARITAN RIVER AT QUEENS BRIDGE AT BOUND BROOK, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
DEC 1986 03...	1100	180	1	26	<0.5	<1	<1	<3	4	130	<5
FEB 1987 19...	1130	40	<1	46	<0.5	<1	<1	<3	3	93	<5
APR 28...	1030	30	<1	31	<0.5	1	<1	<3	7	48	<5
SEP 04...	1030	30	1	36	<0.5	<1	2	<3	3	19	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 1986 03...	<4	45	0.1	<10	1	<1	<1	41	<6	6
FEB 1987 19...	6	150	<0.1	<10	<1	<1	<1	150	<6	15
APR 28...	<4	52	<0.1	10	<1	<1	<1	91	<6	10
SEP 04...	<4	36	0.1	<10	<1	5	<1	170	<6	6

01403400 GREEN BROOK AT SEELEY MILLS, NJ

LOCATION.--Lat 40°39'53", long 74°24'10", Somerset County, Hydrologic Unit 02030105, on right bank at Seeley Mills, 250 ft downstream from Blue Brook, 300 ft downstream from bridge on Diamond Hill Road, and 0.5 mi northwest of Scotch Plains.

DRAINAGE AREA.--6.23 $mi.^2$

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-64, 1969: annual maximum, water years 1969-79. June 1979 to current year. Fragmentary records 1944-53 in the files of the Geological Survey. Crest-stage data 1927-38, 1958-68 in files of Union County Park Commission.

REVISED RECORDS.--WDR-NJ 81-1: 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 184.44 ft above National Geodetic Vertical Datum of 1929. From 1944 to 1953, water-stage recorder and masonry dam about 400 ft downstream above lower Seeley Mills dam at different datum. From July 1969 to May 1979, crest-stage gage about 450 ft downstream below lower Seeley Mills dam (washed out May 29, 1968) at different datum.

REMARKS.--No estimated daily discharges. Records fair. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--8 years, 11.2 ft^3/s, 21.84 in./yr.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft^3/s, Aug. 2, 1973, gage height, 16.1 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow, site and datum then in use; no flow part or all of some days in September 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 23, 1938 reached an elevation of 196.5 ft, New Jersey Geological Survey datum, above lower Seeley Mills dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2345	495	3.47	Apr. 4	1430	*848	*4.37
Nov. 26	2015	696	3.99	July 12	1700	638	3.85
Dec. 3	0045	323	2.93	July 14	1700	528	3.56
Dec. 25	0330	386	3.14	July 26	1245	347	3.01
Mar. 1	1430	288	2.82	Aug. 10	0230	253	2.70
Mar. 31	1300	314	2.90	Sept. 13	1215	528	3.56

Minimum discharge, 1.40 ft^3/s Oct. 1, gage height, 0.96 ft.

REVISIONS.--The revised maximum discharges for the water years 1971 and 1975 and the revised maximum gage height (datum then in use) for the water year 1973 are given below. The figures supercede those published in the reports for 1978 and 1980.

Date	Discharge (ft^3/s)	Gage Height (ft)
Aug. 28, 1971	2,200	12.32
Aug. 2, 1973	6,240	16.1
July 14, 1975	1,900	11.91

01403400 GREEN BROOK AT SEELEY MILLS, NJ--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.7	4.1	5.7	7.0	151	29	6.2	2.2	2.4	2.3	2.8
2	2.9	1.9	38	56	8.7	74	14	5.9	4.2	8.3	2.3	2.1
3	5.1	1.8	109	24	16	35	9.9	8.2	2.6	16	2.4	2.1
4	2.9	2.0	21	14	17	23	240	23	22	2.7	2.2	2.0
5	1.7	6.4	10	9.9	12	18	53	17	11	2.3	24	2.0
6	1.5	11	6.9	8.2	9.0	16	57	11	3.5	2.2	28	2.2
7	1.5	2.7	5.9	7.8	9.4	18	38	7.8	3.0	2.2	4.8	11
8	1.5	17	5.1	7.2	9.7	17	26	6.5	2.9	8.7	3.2	9.2
9	1.5	6.2	24	6.2	13	13	20	5.8	3.5	19	5.2	5.8
10	1.5	3.4	26	11	9.1	9.5	16	5.3	2.6	2.9	46	2.9
11	1.6	21	13	17	7.6	7.3	13	5.1	2.4	2.7	7.1	2.3
12	1.5	6.8	14	11	7.3	7.7	12	4.7	2.8	52	3.8	2.8
13	1.8	3.3	8.6	8.0	6.6	9.2	13	4.3	3.2	7.7	3.2	69
14	5.7	2.6	6.2	7.5	6.3	8.1	9.9	3.9	2.6	74	3.0	14
15	1.8	2.5	5.7	9.1	5.5	6.8	8.3	5.5	2.2	23	3.1	5.0
16	1.6	2.3	5.5	7.1	9.9	6.3	8.1	3.9	1.9	7.2	2.6	3.9
17	1.7	2.2	5.5	5.9	4.5	5.7	15	3.8	1.9	3.8	2.5	7.9
18	1.6	6.0	42	15	4.3	5.5	18	7.0	1.8	3.2	2.3	12
19	1.6	21	31	27	4.1	5.3	11	7.8	1.8	12	2.2	6.1
20	1.6	42	13	17	4.0	5.1	8.5	4.6	1.8	5.6	2.1	4.4
21	1.6	63	8.5	11	4.1	5.2	7.7	4.0	6.3	3.2	2.1	3.7
22	1.5	8.6	6.7	9.1	4.3	4.9	6.7	3.3	21	2.7	2.1	4.0
23	1.5	4.1	6.1	10	5.7	4.5	6.0	3.7	3.3	2.5	2.0	3.4
24	1.6	5.7	8.4	15	5.0	4.4	15	3.5	2.3	5.2	1.9	3.0
25	1.6	3.6	99	25	4.6	4.2	34	3.2	2.1	4.1	1.8	2.8
26	7.2	122	22	5.8	4.6	4.1	13	3.0	2.1	32	1.8	2.7
27	2.4	53	13	14	4.4	3.9	8.9	3.3	13	8.4	11	2.6
28	1.8	13	9.2	23	4.8	7.0	12	2.9	2.6	3.3	8.5	2.6
29	1.7	6.8	7.7	4.8	---	4.1	9.3	2.8	2.2	2.6	7.8	2.5
30	1.8	5.0	7.0	10	---	6.1	8.3	2.6	2.2	2.4	2.4	3.5
31	1.7	---	6.0	10	---	80	---	2.4	---	2.4	2.3	---
TOTAL	66.4	448.6	588.1	412.3	208.5	569.9	740.6	182.0	137.0	326.7	196.0	200.3
MEAN	2.14	15.0	19.0	13.3	7.45	18.4	24.7	5.87	4.57	10.5	6.32	6.68
MAX	7.2	122	109	56	17	151	240	23	22	74	46	69
MIN	1.4	1.7	4.1	4.8	4.0	3.9	6.0	2.4	1.8	2.2	1.8	2.0
CFSM	.34	2.40	3.05	2.13	1.20	2.95	3.96	.94	.73	1.69	1.01	1.07
IN.	.40	2.68	3.51	2.46	1.24	3.40	4.42	1.09	.82	1.95	1.17	1.20

CAL YR 1986 TOTAL 3630.2 MEAN 9.95 MAX 286 MIN 1.3 CFSM 1.60 IN. 21.67
WTR YR 1987 TOTAL 4076.4 MEAN 11.2 MAX 240 MIN 1.4 CFSM 1.79 IN. 24.33

01403535 EAST BRANCH STONY BROOK AT BEST LAKE AT WATCHUNG, NJ

LOCATION.--Lat 40°38'25", long 74°26'52", Somerset County, Hydrologic Unit 02030105, 700 ft upstream of dam on Best Lake in Watchung, 1,400 ft upstream of mouth, and 0.5 mi northeast of Watchung.

DRAINAGE AREA.--1.57 mi^2.

PERIOD OF RECORD.--July 1980 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 193.87 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--Records fair above 0.2 ft^3/s and poor below. Records given herein represent flow over dam and leakage through ports in dam. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

AVERAGE DISCHARGE.--7 years, 2.90 ft^3/s, 22.49 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 484 ft^3/s, July 7, 1984, gage height, 2.56 ft; no flow part or all of many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 2, 1973, reached a stage of 5.4 ft, present datum, from floodmarks, discharge, 2,840 ft^3/s, by computation of flow over dam, embankment, and road.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2330	120	1.73	July 12	1700	277	2.14
Nov. 26	1945	*429	*2.46	July 14	1645	269	2.12
Dec. 25	0300	173	1.88	July 26	1245	148	1.81
Apr. 4	1245	369	2.34	Aug. 10	0215	103	1.68
July 9	0045	123	1.74	Sept. 13	1200	166	1.86

No flow many days in October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.26	3.1	2.5	1.8	36	4.3	2.4	.39	.40	.70	.34
2	.12	.31	13	16	2.3	14	2.7	2.3	1.6	1.9	.70	.26
3	.06	.32	24	5.9	4.1	7.6	2.2	2.5	.74	3.6	.67	.26
4	.31	.49	4.0	3.9	4.1	5.3	51	4.4	5.5	.76	.58	.26
5	.09	2.3	2.7	3.1	3.1	4.4	7.8	3.8	3.3	.53	4.0	.25
6	.01	6.0	2.2	2.7	2.7	4.0	11	3.3	1.3	.36	6.7	.16
7	.00	3.5	1.7	2.7	2.8	4.8	7.6	2.9	.97	.32	1.3	1.7
8	.00	8.0	1.5	2.4	2.7	5.0	5.3	2.5	.84	4.0	1.0	1.5
9	.00	4.7	6.8	2.1	3.3	3.6	4.6	2.2	1.0	7.3	3.0	.94
10	.00	3.5	5.8	3.2	2.7	1.9	4.3	1.8	.77	1.1	14	.45
11	.00	7.6	3.4	4.8	2.3	2.1	3.9	1.7	.52	.89	2.1	.37
12	.00	4.5	3.9	3.3	2.4	2.3	3.7	1.9	.62	12	1.3	.26
13	.00	3.8	2.5	2.7	1.9	2.2	3.7	1.4	.60	2.4	.92	15
14	.16	3.2	1.7	2.6	1.6	2.0	3.7	1.2	.53	24	.72	1.4
15	.31	2.9	1.5	3.0	1.4	1.9	3.7	1.7	.43	4.7	.65	.67
16	.14	3.2	1.4	2.4	1.4	1.8	3.5	1.3	.33	2.0	.51	.61
17	.06	3.2	1.4	2.2	1.4	1.6	4.2	1.1	.25	1.5	.45	1.1
18	.01	3.6	12	5.0	1.3	1.5	4.4	1.5	.21	1.2	.37	2.0
19	.00	7.7	5.8	8.0	1.1	1.4	3.7	1.7	.16	2.5	.31	1.3
20	.00	14	3.7	4.8	1.1	1.2	3.7	1.3	.15	1.4	.30	.75
21	.00	14	2.9	3.6	1.1	1.2	3.6	1.2	.35	1.1	.26	.61
22	.00	1.7	2.4	3.4	1.1	1.1	3.0	1.1	3.2	.90	.33	.71
23	.00	1.3	1.8	2.8	1.5	1.0	3.1	.98	.81	.80	.35	.54
24	.00	2.1	2.2	2.2	1.2	.90	5.3	.94	.35	1.6	.24	.45
25	.00	1.4	28	1.6	1.2	.86	8.6	.85	.22	1.5	.21	.38
26	1.4	38	4.9	1.5	1.1	.85	3.9	.80	.13	7.9	.26	.26
27	1.8	8.9	4.0	1.3	1.1	.80	3.5	.89	2.9	1.8	1.7	.26
28	1.0	4.1	3.7	1.2	1.2	1.4	3.7	.79	.77	1.2	.87	.33
29	.71	3.8	3.3	1.2	---	.94	3.6	.67	.45	.94	1.5	.33
30	.52	3.3	3.1	3.3	---	1.1	3.0	.56	.32	.83	.46	.40
31	.34	---	2.6	3.0	---	15	---	.44	---	.85	e.40	---
TOTAL	7.39	161.68	161.0	108.4	55.0	129.75	180.3	52.12	29.71	92.28	46.86	33.85
MEAN	.24	5.39	5.19	3.50	1.96	4.19	6.01	1.68	.99	2.98	1.51	1.13
MAX	1.8	38	28	16	4.1	36	51	4.4	5.5	24	14	15
MIN	.00	.26	1.4	1.2	1.1	.80	2.2	.44	.13	.32	.21	.16
CFSM	.15	3.43	3.31	2.23	1.25	2.67	3.83	1.07	.63	1.90	.96	.72
IN.	.18	3.83	3.81	2.57	1.30	3.07	4.27	1.23	.70	2.19	1.11	.80

CAL YR 1986 TOTAL 990.38 MEAN 2.71 MAX 62 MIN .00 CFSM 1.73 IN. 23.46
WTR YR 1987 TOTAL 1058.32 MEAN 2.90 MAX 51 MIN .00 CFSM 1.85 IN. 25.07

e Estimated

01403540 STONY BROOK AT WATCHUNG, NJ

LOCATION.--Lat 40°38'12", long 74°27'06", Somerset County, Hydrologic Unit 02030105, on right bank at Watchung Borough Administration Building, 150 ft downstream from bridge on Watchung Avenue, and 2.9 mi upstream from confluence with Green Brook.

DRAINAGE AREA.--5.51 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-86-1: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 172.24 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for period of estimated daily discharge, which are fair. Occasional regulation from Watchung and Best Lakes directly upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 10.2 ft^3/s, 25.14 in./yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,420 ft^3/s, July 14, 1975, gage height, 10.40 ft, from rating curve extended above 500 ft^3/s on basis of slope-area measurements of peak flow; no flow all or part of Sept. 13, 18-20, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 2, 1973, reached a stage of 14.5 ft, from floodmark, discharge, 10,500 ft^3/s, from slope-area measurements of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	2345	458	4.48	July 14	1700	968	5.86
Nov. 26	2000	793	5.47	July 26	1315	448	4.44
Apr. 4	1300	*1,110	*6.15	Sept. 13	1215	508	4.66
July 12	1715	351	4.05				

Minimum discharge, 0.87 ft^3/s, Oct. 23, 24, 25, gage height, 0.81 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.93	.99	4.9	e6.3	e7.8	120	16	12	1.8	2.5	1.8	2.3
2	1.6	1.0	34	e50	e9.4	48	11	5.3	3.7	5.7	1.7	2.0
3	2.0	1.0	81	e26	e15	24	9.9	6.7	2.6	16	1.9	1.7
4	2.5	1.3	14	e17	e17	18	174	23	18	3.2	1.8	1.6
5	1.7	2.9	9.4	e11	10	15	29	23	12	2.3	8.2	1.6
6	1.3	8.2	7.4	e9.0	9.6	14	42	7.7	4.2	1.8	20	1.7
7	1.2	2.7	6.5	e8.4	9.7	16	29	3.5	3.1	1.7	5.4	4.0
8	1.1	11	6.0	e7.6	9.9	15	20	3.2	3.0	16	4.2	5.4
9	1.2	5.6	23	e6.7	12	12	16	3.0	2.9	24	7.2	6.1
10	1.1	3.6	19	e11	9.5	9.7	15	2.7	2.5	4.6	45	2.7
11	1.0	15	11	e16	8.8	8.7	13	2.8	2.0	3.3	6.8	2.1
12	1.1	7.3	13	e12	8.7	9.1	12	4.2	2.1	27	4.8	2.1
13	1.2	4.1	9.3	e9.0	7.8	9.8	11	4.5	2.3	7.5	3.6	44
14	3.0	2.9	7.5	e8.0	7.2	9.6	10	4.0	2.3	92	3.1	6.7
15	2.0	2.5	7.1	e9.0	7.1	8.6	9.3	7.1	1.9	17	2.9	4.1
16	1.4	2.5	7.0	e7.5	6.7	7.6	8.7	5.2	1.7	7.1	2.6	3.5
17	1.3	2.4	7.1	e6.5	6.2	7.0	12	4.2	1.6	5.4	2.4	4.3
18	1.2	3.2	42	e16	5.6	6.4	13	4.8	1.4	4.5	2.2	9.5
19	1.1	19	22	e26	5.1	6.2	9.8	6.4	1.1	9.7	2.0	6.7
20	1.1	38	13	e19	5.0	5.8	8.8	4.6	1.4	6.2	1.9	4.2
21	1.1	56	11	e13	4.9	5.5	8.1	4.5	1.7	4.2	1.8	3.3
22	1.1	9.1	9.5	e11	5.0	5.2	7.5	3.6	10	3.2	1.9	4.3
23	1.1	6.4	8.7	e11	6.4	5.1	7.0	3.2	3.8	2.9	1.8	3.1
24	.87	8.1	9.4	e12	5.6	4.8	13	3.1	2.0	7.0	1.7	2.6
25	.90	6.7	e78	e15	5.4	4.4	30	2.8	1.7	8.0	1.7	2.4
26	3.2	112	e22	e6.6	5.3	4.4	12	2.7	1.6	38	1.7	2.1
27	2.5	28	e17	e9.1	5.3	4.2	10	2.8	8.0	6.3	7.0	1.9
28	1.3	10	e11	e13	5.4	6.7	12	2.7	2.8	3.5	4.5	1.9
29	1.1	7.2	e8.6	e5.3	---	5.1	10	2.4	1.9	2.6	6.5	1.9
30	1.1	5.7	e7.7	e9.8	---	5.2	9.6	2.0	1.8	2.2	2.8	2.2
31	1.0	---	e6.7	e10	---	48	---	1.9	---	2.1	2.2	---
TOTAL	44.30	384.39	533.8	397.8	221.4	469.1	588.7	169.6	106.9	337.5	163.1	142.0
MEAN	1.43	12.8	17.2	12.8	7.91	15.1	19.6	5.47	3.56	10.9	5.26	4.73
MAX	3.2	112	81	50	17	120	174	23	18	92	45	44
MIN	.87	.99	4.9	5.3	4.9	4.2	7.0	1.9	1.1	1.7	1.7	1.6
CFSM	.26	2.33	3.13	2.33	1.44	2.75	3.56	.99	.65	1.98	.95	.86
IN.	.30	2.60	3.60	2.69	1.49	3.17	3.97	1.15	.72	2.28	1.10	.96

CAL YR 1986 TOTAL 3178.36 MEAN 8.71 MAX 210 MIN .87 CFSM 1.58 IN. 21.45
WTR YR 1987 TOTAL 3558.55 MEAN 9.75 MAX 174 MIN .87 CFSM 1.77 IN. 24.02

e Estimated

01404100 RARITAN RIVER NEAR SOUTH BOUND BROOK, NJ

LOCATION.--Lat 40°30'47", long 74°32'24", Somerset County, Hydrologic Unit 02030105, at bridge on Interstate Route 287, 0.2 mi downstream from Fieldsville Dam, and 1.5 mi southeast of South Bound Brook.

DRAINAGE AREA.--862 mi^2.

PERIOD OF RECORD.--Water years 1966 to September 1981, 1987.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1969 to March 1977.
pH: May 1969 to March 1977.
WATER TEMPERATURES: May 1969 to March 1977.
DISSOLVED OXYGEN: May 1969 to March 1977.

INSTRUMENTATION.--Water-quality monitor May 1969 to March 1977.

REMARKS.--Instanteous water discharge estimated from discharge at 01403060, Raritan River below Calco Dam, at Bound Brook, and drainage area relationship.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
SEP 1987												
04...	1005	E198	339	7.4	20.0	4.2	8.2	89	2.3	K8400	700	99

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
SEP 1987											
04...	25	8.9	23	4.0	67	55	54	51	30	0.3	4.3

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
SEP 1987											
04...	180	11	90	0.040	2.20	0.41	0.440	1.9	0.400	0.230	0.200

DATE	TIME	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
SEP 1987											
04...	1005	30	1	42	0.6	<1	<1	<3	5	60	<5

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 1987										
04...	<4	56	<0.1	<10	3	<1	<1	200	<6	9

01405000 LAWRENCE BROOK AT FARRINGTON DAM, NJ

LOCATION.--Lat 40°27'00", long 74°27'05", Middlesex County, Hydrologic Unit 02030105, on left bank 300 ft downstream from Farrington Dam, 0.7 mi southwest of Milltown, and 5.4 mi upstream from mouth.

DRAINAGE AREA.--34.4 mi^2.

PERIOD OF RECORD.--May 1927 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1432: 1959(P).

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 25.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those below 15 ft^3/s, which are poor. Records given herein include flow over dam and through blowoff gates. Gates not open this water year. Flow regulated by Farrington Lake, capacity, 655,250,000 gal. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of gate openings furnished by employees of City of New Brunswick.

AVERAGE DISCHARGE.--60 years, 38.6 ft^3/s, 15.23 in./yr, adjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft^3/s, July 21, 1975, gage height, 26.93 ft, from rating curve extended above 1,100 ft^3/s on basis of weir formula; no flow at times when gates in dam were closed and water was below spillway.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	1700	493	25.31	July 14	2300	*618	*25.41

Minimum daily discharge, 6.1 ft^3/s, Oct. 11, 12, 13, 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.4	21	25	44	197	100	41	11	15	44	14
2	6.6	6.4	34	250	42	176	48	36	14	101	28	12
3	6.5	6.4	196	140	64	106	35	35	14	118	30	10
4	6.7	6.4	79	87	87	77	262	82	19	32	27	9.6
5	6.7	6.7	41	59	65	53	142	105	41	20	21	9.0
6	6.5	41	31	46	51	44	145	65	16	16	38	9.0
7	6.3	20	25	41	49	40	110	49	12	14	25	10
8	6.3	33	22	38	51	37	76	42	12	37	19	13
9	6.2	43	107	34	59	34	53	35	12	103	18	24
10	6.2	45	127	45	50	29	42	31	14	25	96	15
11	6.1	71	63	69	41	28	35	27	11	20	38	11
12	6.1	85	69	49	43	31	32	26	9.6	61	23	10
13	6.1	32	47	38	37	35	30	24	10	90	19	27
14	6.2	21	32	30	32	33	e32	23	11	158	17	28
15	6.4	18	27	29	30	30	e30	22	9.5	204	15	15
16	6.4	17	24	26	24	27	e30	22	9.7	49	14	15
17	6.3	15	23	24	23	25	e65	20	8.5	27	12	16
18	6.3	15	79	48	25	24	e74	18	7.9	20	11	43
19	6.3	102	129	110	24	23	e54	19	7.2	19	10	28
20	6.2	45	58	108	23	22	e46	21	7.1	20	9.9	19
21	6.2	146	38	68	23	22	41	24	7.8	15	9.2	16
22	6.2	55	30	58	25	20	35	20	16	13	9.2	15
23	6.2	34	26	48	45	20	32	18	21	11	9.2	15
24	6.1	36	25	36	46	20	58	17	11	12	8.8	12
25	6.1	32	229	32	46	20	229	16	9.0	32	8.5	11
26	6.2	70	96	33	41	18	103	16	8.3	76	8.2	10
27	6.4	140	53	30	40	18	65	17	23	66	27	9.4
28	6.5	53	40	28	39	29	74	17	16	25	29	9.4
29	6.5	34	33	23	---	26	67	15	10	18	22	9.4
30	6.4	26	29	31	---	22	51	14	8.6	54	15	11
31	6.4	---	26	48	---	110	---	12	---	111	12	---
TOTAL	196.3	1261.3	1859	1731	1169	1396	2196	929	387.2	1582	673.0	455.8
MEAN	6.33	42.0	60.0	55.8	41.7	45.0	73.2	30.0	12.9	51.0	21.7	15.2
MAX	6.7	146	229	250	87	197	262	105	41	204	96	43
MIN	6.1	6.4	21	23	23	18	30	12	7.1	11	8.2	9.0
(†)	-0.3	+0.9	0	+0.2	+0.1	+0.8	-0.9	-0.4	-0.1	+0.7	-0.6	0
MEAN‡	6.05	42.9	60.0	56.0	41.8	45.8	72.3	29.6	12.8	51.7	21.1	15.2
CFSM‡	0.18	1.25	1.74	1.63	1.22	1.33	2.10	0.86	0.37	1.50	0.61	0.44
IN.‡	0.20	1.39	2.01	1.88	1.27	1.54	2.35	0.99	0.42	1.73	0.71	0.49

CAL YR 1986 TOTAL 11064.8 MEAN 30.3 MAX 599 MIN 5.8 MEAN‡ 29.8 CFSM‡ 0.87 IN.‡ 11.77
WTR YR 1987 TOTAL 13835.6 MEAN 37.9 MAX 262 MIN 6.1 MEAN‡ 37.9 CFSM‡ 1.10 IN.‡ 14.96

e Estimated

† Change in contents, in cubic feet per second, in Farrington Lake.

01405302 MATCHAPONIX BROOK AT MUNDY AVENUE AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'22", long 74°22'55", Middlesex County, Hydrologic Unit 02030105, at bridge on Mundy Avenue in Spotswood, 0.2 mi upstream from mouth, 0.5 mi east of De Voe Lake dam, and 3.4 mi southeast of Tanners Corners.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
23...	1000	E8.4	316	6.9	12.0	9.6	89	E1.5	50	110
FEB 1987										
02...	1100	E73	--	5.9	2.5	12.5	--	E1.6	<20	<2
MAR										
16...	0945	E60	207	6.2	4.5	10.5	81	<1.2	<20	49
JUN										
23...	1230	E39	322	7.1	22.0	7.7	89	E1.4	330	1600
JUL										
29...	1245	E31	208	6.6	21.5	7.3	83	E1.3	490	350
AUG										
18...	1330	E16	287	6.8	24.0	6.7	80	E1.5	170	350

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
23...	84	28	3.5	20	5.3	32	44	25	0.3
FEB 1987									
02...	54	15	4.1	52	3.2	2.0	45	82	0.1
MAR									
16...	48	13	3.8	18	2.9	3.0	45	25	0.2
JUN									
23...	75	24	3.7	21	4.7	21	43	29	0.2
JUL									
29...	51	15	3.3	14	3.5	6.0	43	17	0.2
AUG									
18...	65	20	3.7	17	3.9	14	48	25	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
23...	11	160	0.022	7.79	0.08	1.3	9.1	0.050	2.9
FEB 1987									
02...	9.0	210	0.017	1.79	1.38	1.7	3.5	0.265	2.9
MAR									
16...	8.9	120	0.044	1.72	1.24	1.7	3.4	0.168	4.6
JUN									
23...	12	150	0.033	6.11	0.08	0.16	6.3	0.095	3.4
JUL									
29...	10	110	0.011	2.77	0.15	0.79	3.6	0.045	4.5
AUG									
18...	11	140	0.031	5.39	0.12	0.46	5.9	0.070	4.1

01405302 MATCHAPONIX BROOK AT MUNDY AVENUE AT SPOTSWOOD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
OCT 1986 23...	1000	<0.5	<1	90	<1	1100	28

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 23...	100	0.20	10	<1	380	3

01405340 MANALAPAN BROOK AT FEDERAL ROAD NEAR MANALAPAN, NJ

LOCATION.--Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.6 mi north of Manalapan, 3.1 mi southwest of Matchaponix, 3.3 mi downstream of Still House Brook, and 4.1 mi northeast of Applegarth.

DRAINAGE AREA.--20.9 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 15...	1000	E14	128	6.4	13.0	9.6	91	<1.2	170	540
FEB 1987 24...	1100	E20	175	5.8	2.0	12.6	91	<0.1	<20	17
MAR 17...	0945	E19	121	6.2	5.0	12.9	101	<0.2	<20	17
JUN 22...	1330	E14	120	7.2	21.5	8.9	102	E1.5	80	1600
JUL 29...	1000	E16	--	6.5	20.5	8.5	95	<1.0	<20	540
AUG 26...	1300	E12	118	7.0	18.5	7.9	84	<1.0	1700	350

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 15...	36	8.1	3.8	7.2	3.4	13	18	15	0.2
FEB 1987 24...	36	8.2	3.7	10	2.1	3.0	24	21	0.2
MAR 17...	34	7.6	3.7	6.5	2.2	3.0	25	13	0.2
JUN 22...	32	7.2	3.3	5.8	2.9	9.0	19	13	0.3
JUL 29...	33	7.6	3.4	5.8	2.8	10	19	12	0.3
AUG 26...	33	7.3	3.7	6.0	2.5	11	17	14	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 15...	9.7	73	0.011	0.45	0.13	1.7	2.2	0.100	3.4
FEB 1987 24...	9.3	80	0.006	1.46	0.11	0.42	1.9	0.040	2.0
MAR 17...	9.0	69	0.013	1.38	0.12	0.35	1.7	0.033	1.0
JUN 22...	7.7	65	0.015	0.81	0.20	0.59	1.4	0.106	4.1
JUL 29...	8.9	66	0.008	<0.05	0.09	0.61	--	0.105	5.7
AUG 26...	9.5	67	0.009	0.90	0.08	0.53	1.4	0.060	2.8

01405340 MANALAPAN BROOK AT FEDERAL ROAD NEAR MANALAPAN, NJ

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 1986											
15...	1000	<0.5	--	--	1	--	<10	60	<1	--	<10
15...	1000	--	0.2	3.7	--	13	--	--	--	<1	--

DATE	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT 1986											
15...	--	--	3	--	3000	--	<5	--	100	--	<0.10
15...	5	<10	--	1	--	14000	--	<10	--	59	--

DATE	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
15...	--	4	--	<1	--	180	--	6	--	--	--
15...	0.02	--	<10	--	<1	--	30	--	2	<1.0	<0.1

DATE	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1986											
15...	--	--	--	--	--	--	--	--	--	--	--
15...	1.0	2.3	2.0	2.3	<0.1	0.3	1.6	<0.1	<0.1	<0.1	0.2

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986										
15...	--	--	--	--	--	--	--	--	--	--
15...	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	<1.00	<10	<0.1

01405400 MANALAPAN BROOK AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'22", long 74°23'27", Middlesex County, Hydrologic Unit 02030105, on right bank of DeVoe Lake Dam in Spotswood, 0.1 mi upstream from Cedar Brook, and 0.6 mi upstream from confluence with Matchaponix Brook.

DRAINAGE AREA.--40.7 mi^2.

PERIOD OF RECORD.--January 1957 to current year.

REVISED RECORDS.--WSP 1722: 1957-60.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Duhernal Water System). January 1957 to September 1966 at datum 17.72 ft higher.

REMARKS.--Records good. Discharge given herein includes flow through waste gates when open. Gates open Oct. 10, 11. Some regulation by Lake Manalapan, Helmetta Pond, and DeVoe Lake. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 64.4 ft^3/s, 21.49 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,650 ft^3/s, May 30, 1968, elevation, 19.90 ft, waste gates open; no flow part or all of some days in many years when gates were closed and water was below spillway.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 395 ft^3/s, July 4, elevation, 18.68 ft; no flow Oct. 12 when gates were closed and water was below spillway; minimum daily, 12 ft^3/s, Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	16	46	48	57	69	179	102	31	29	50	40
2	21	17	46	99	58	171	181	89	32	60	38	46
3	21	19	149	269	61	272	120	79	39	251	35	34
4	23	19	285	300	77	230	108	79	41	321	32	28
5	23	20	151	122	92	171	195	123	56	87	28	27
6	20	55	72	76	85	128	282	120	42	49	33	27
7	18	80	58	65	78	101	261	90	30	40	38	27
8	17	59	51	63	78	86	187	66	31	41	31	e27
9	16	70	66	59	78	73	149	57	32	63	30	e36
10	e15	63	179	58	81	59	131	53	41	71	143	e34
11	e16	56	187	79	77	52	117	48	35	49	286	e28
12	.00	125	117	80	71	49	103	47	28	54	241	e26
13	3.9	98	105	62	67	52	95	43	31	72	67	e37
14	23	54	70	58	60	56	90	41	98	56	29	e64
15	25	41	55	53	54	57	87	41	200	125	38	e48
16	23	36	51	51	47	54	85	42	70	90	35	e33
17	19	34	49	49	45	50	86	40	39	49	33	e36
18	17	32	54	49	44	47	133	38	32	38	30	76
19	14	80	127	82	44	46	143	39	28	33	28	84
20	14	124	152	151	44	44	127	43	26	44	27	54
21	14	122	86	156	44	44	106	47	27	44	26	42
22	14	143	60	97	44	44	100	44	30	31	26	38
23	14	74	51	78	45	44	97	40	33	26	26	35
24	13	57	49	72	49	44	94	39	32	25	25	31
25	12	61	89	60	52	44	149	38	28	26	24	26
26	17	61	188	56	52	43	232	36	26	52	23	25
27	29	141	114	53	52	41	187	36	59	86	39	23
28	28	140	74	50	52	44	143	36	101	56	54	23
29	22	73	63	49	---	55	129	36	48	36	52	22
30	18	54	55	49	---	57	117	35	33	33	42	23
31	17	---	51	52	---	74	---	33	---	47	33	---
TOTAL	548.90	2024	2950	2645	1688	2401	4213	1700	1379	2084	1642	1100
MEAN	17.7	67.5	95.2	85.3	60.3	77.5	140	54.8	46.0	67.2	53.0	36.7
MAX	29	143	285	300	92	272	282	123	200	321	286	84
MIN	.00	16	46	48	44	41	85	33	26	25	23	22
CFSM	.44	1.66	2.34	2.10	1.48	1.90	3.45	1.35	1.13	1.65	1.30	.90
IN.	.50	1.85	2.70	2.42	1.54	2.19	3.85	1.55	1.26	1.90	1.50	1.01

CAL YR 1986 TOTAL 19626.19 MEAN 53.8 MAX 815 MIN .00 CFSM 1.32 IN. 17.93
WTR YR 1987 TOTAL 24374.90 MEAN 66.8 MAX 321 MIN .00 CFSM 1.64 IN. 22.27

e Estimated

01405440 MANALAPAN BROOK AT BRIDGE STREET AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'26", long 74°23'26", Middlesex County, Hydrologic Unit 02030105, at bridge on Bridge Street in Spotswood, 150 ft downstream from Cedar Brook, and 400 ft below DeVoe Lake Dam.

DRAINAGE AREA.--43.9 mi^2.

PERIOD OF RECORD.--February 1979 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
23...	1245	E14	124	5.4	12.0	9.6	89	<0.8	<20	110
FEB 1987										
02...	1300	E67	178	4.6	2.5	12.3	91	E1.4	<20	8
MAR										
16...	1115	E63	155	4.8	5.0	11.0	86	E1.3	<20	6
JUN										
23...	1030	--	123	6.2	21.0	8.0	91	E1.6	140	1600
JUL										
29...	1030	E40	117	5.8	19.0	7.8	84	E1.6	130	350
AUG										
18...	1200	E31	118	6.0	24.5	8.0	96	1.7	20	110

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
23...	31	6.3	3.7	7.1	2.9	3.0	21	15	0.1
FEB 1987									
02...	35	7.9	3.7	14	2.1	2.0	30	20	0.2
MAR									
16...	31	6.9	3.4	8.9	2.1	<1.0	28	16	0.1
JUN									
23...	25	5.4	2.9	6.1	2.2	3.0	21	14	0.2
JUL									
29...	32	7.0	3.5	8.3	2.6	4.0	22	11	0.2
AUG									
18...	34	7.7	3.5	7.3	2.3	2.0	20	13	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
23...	5.4	63	0.012	0.74	0.20	0.40	1.1	0.030	3.9
FEB 1987									
02...	8.7	88	0.006	1.27	0.27	0.39	1.7	<0.020	1.3
MAR									
16...	7.8	--	0.012	1.14	0.14	0.47	1.6	0.105	1.6
JUN									
23...	5.9	60	0.009	0.64	0.11	0.81	1.4	0.053	4.2
JUL									
29...	4.0	61	0.005	0.65	0.11	0.82	1.5	0.050	6.3
AUG									
18...	5.5	61	0.006	0.43	0.06	0.66	1.1	0.050	4.9

01405440 MANALAPAN BROOK AT BRIDGE STREET AT SPOTSWOOD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	PHENOLS TOTAL (UG/L)
JUN 1987											
23...	1030	<0.5	50	<1	<1	<1	25	<0.10	<1	<1	5

01405500 SOUTH RIVER AT OLD BRIDGE, NJ

LOCATION.--Lat 40°24'22", long 74°22'08", Middlesex County, Hydrologic Unit 02030105, on right abutment of Duhernal Dam, 0.6 mi south of Old Bridge, 2.3 mi upstream from Deep Run, and 9.1 mi upstream from mouth.

DRAINAGE AREA.--94.6 mi^2.

PERIOD OF RECORD.--August 1939 to current year.

REVISED RECORDS.--WSP 1902: 1957. WDR NJ-82-1: 1975-80(P).

GAGE--Water-stage recorder above concrete dam. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods when waste gates were open, Oct. 1 to Nov. 10, Apr. 1 to Sept. 20, which are fair. Records include flow over dam and through waste gates when open. Flow past this station is affected by pumpage from well fields for industrial use by Duhernal Water System. Some regulation by Duhernal Lake, capacity, 138,000,000 gal, Lake Manalapan, DeVoe Lake, and several small ponds in headwater tributaries.

AVERAGE DISCHARGE.--48 years, 142 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s, Sept. 15, 1944, elevation, 11.71 ft, waste gates open; maximum gage height, 11.73 ft, Aug. 28, 1971; no flow on days when waste gates were closed and water was below spillway.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	0300	1,170	10.72	Mar. 2	1600	1,120	10.70
Dec. 10	1700	805	10.55	Apr. 5	1300	880	10.56
Dec. 26	0700	863	10.58	July 3	----	e1,000	---
Jan. 3	0400	*1,670	*10.92	Aug. 11	----	e1,200	---

Minimum daily discharge, 30 ft^3/s, Oct. 10, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e49	e38	134	146	184	346	e580	e240	e63	e71	e132	e110
2	e50	e41	135	574	174	948	e424	e213	e72	e147	e84	e127
3	e50	e46	587	1420	212	693	e290	e195	e94	e633	e79	e80
4	e54	e46	970	565	291	349	e375	e227	e85	e701	e73	e68
5	e54	e49	311	263	270	247	e714	e348	e117	e199	e64	e63
6	e44	e151	190	203	202	206	e823	e326	e100	e125	e76	e61
7	e40	e204	163	184	191	196	e698	e267	e69	e101	e88	e61
8	e38	e130	149	177	209	192	e475	e210	e71	e101	e68	e70
9	e37	e160	269	167	238	181	e387	e157	e74	e165	e66	e90
10	e30	e138	708	176	237	166	e333	e141	e97	e192	e469	e82
11	e37	173	438	277	195	147	e292	e127	e85	e120	e1040	e67
12	e36	409	332	211	184	145	e257	e121	e63	e115	e446	e63
13	e38	251	263	175	171	163	e243	e111	e75	e143	e175	e93
14	e52	148	186	159	156	173	e232	e102	e296	e124	e88	e172
15	e67	112	160	152	148	163	e216	e101	e515	e268	e94	e118
16	e52	95	149	148	120	151	e208	e106	e155	e209	e88	e76
17	e44	98	143	137	133	137	e265	e98	e104	e102	e82	e75
18	e40	93	204	151	131	129	e410	e92	e82	e85	e76	e132
19	e35	332	579	358	128	125	e358	e95	e71	e76	e70	e170
20	e34	343	380	534	123	120	e310	e106	e65	e121	e66	e110
21	e34	409	215	338	122	119	e270	e113	e66	e116	e63	e109
22	e34	392	173	238	129	124	e247	e106	e73	e71	e63	94
23	e34	194	152	231	160	128	e230	e93	e87	e64	e64	90
24	e32	170	146	202	180	118	e228	e91	e84	e60	e60	80
25	e30	178	491	166	179	109	e403	e87	e72	e61	e56	67
26	e43	200	688	166	170	104	e574	e82	e66	e139	e55	59
27	e75	488	270	156	168	103	e402	e82	e140	e245	e97	54
28	e67	353	199	146	162	142	e336	e82	e231	e125	e149	51
29	e49	192	174	146	---	188	e311	e77	e118	e80	e142	49
30	e43	157	162	148	---	146	e277	e72	e82	e74	e107	50
31	e41	---	155	181	---	249	---	e66	---	e119	e78	---
TOTAL	1363	5790	9275	8295	4967	6507	11168	4334	3372	4952	4358	2591
MEAN	44.0	193	299	268	177	210	372	140	112	160	141	86.4
MAX	75	488	970	1420	291	948	823	348	515	701	1040	172
MIN	30	38	134	137	120	103	208	66	63	60	55	49

CAL YR 1986 TOTAL 53391 MEAN 146 MAX 2120 MIN 27
WTR YR 1987 TOTAL 66972 MEAN 183 MAX 1420 MIN 30

e Estimated

RESERVOIRS IN RARITAN RIVER BASIN

01396790 SPRUCE RUN RESERVOIR.--Lat 40°38'30", long 74°55'19", Hunterdon County, Hydrologic Unit 02030105, at dam on Spruce Run, 0.5 mi north of Clinton, and 0.6 mi upstream from mouth. DRAINAGE AREA, 41.3 mi^2. PERIOD OF RECORD, November 1963 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed in October 1963 with crest of spillway at elevation 273.00 ft. Usable capacity, 11,000,000,000 gal. Dead storage 300,000 gal. Reservoir used for water supply and recreation. Outflow mostly regulated by gates. Water is released to maintain minimum flow on the South Branch Raritan River and, at times, for municipal supply. Records given herein represent usable capacity.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 11,640,000,000 gal, Apr. 2, 1970, elevation, 274.38 ft; minimum observed, 3,100,000,000 gal, Oct. 18, 1983, elevation, 246.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,220,000,000 gal, April 5, elevation, 273.39 ft; minimum observed, 3,390,000,000 gal, Nov. 5, elevation, 247.72 ft.

REVISED RECORDS.--WDR NJ-84-1: (M). WDR NJ-85-1: 1984.

01397050 ROUND VALLEY RESERVOIR.--Lat 40°36'39", long 74°50'42", Hunterdon County, Hydrologic Unit 02030105, at main dam on Prescott Brook, 1.8 mi south of Lebanon, 3.2 mi upstream from mouth, and 4.5 mi west of Whitehouse. DRAINAGE AREA, 5.7 mi^2. PERIOD OF RECORD, March 1966 to current year. Nonrecording gage read daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam at main dam on Prescott Brook and two dams on South Branch Rockaway River at Lebanon; storage began in March 1966. Capacity at spillway level, 55,000,000,000 gal, elevation, 385.00 ft. Reservoir is used primarily for storage and is filled by pumping from South Branch Raritan River at Hamden Pumping Station (see following page). Outflow is controlled by operation of gates in pipe in dams. Water is released into South Branch Rockaway Creek and Prescott Brook.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,400,000,000 gal, June 15, 1975, elevation, 385.63 ft; minimum observed (after first filling), 37,100,000,000 gal, Feb. 9, 1981, elevation, 361.30 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 53,180,000,000 gal, Aug. 10, elevation, 382.76 ft; minimum observed, 49,950,000,000 gal, Nov. 5, elevation, 378.25 ft.

REVISED RECORDS.--WDR NJ-85-1: 1984.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01396790 SPRUCE RUN RESERVOIR			01397050 ROUND VALLEY RESERVOIR		
Sept. 30.....	249.66	3,780	-	379.12	50,620	-
Oct. 31.....	247.88	3,430	-17.5	378.36	50,030	-29.4
Nov. 30.....	254.13	4,790	+70.1	378.66	50,230	+10.3
Dec. 31.....	262.00	6,950	+108	379.12	50,620	+19.5
CAL YR 1986....	-	-	-13.5	-	-	+12.5
Jan. 31.....	265.71	8,160	+60.4	379.36	50,780	+8.0
Feb. 28.....	267.90	9,020	+47.5	379.41	50,810	+1.7
Mar. 31.....	272.54	10,830	+90.3	380.59	51,650	+41.9
Apr. 30.....	272.99	11,000	+8.8	382.12	52,660	+52.1
May 31.....	272.94	10,980	-1.0	382.23	52,730	+3.5
June 30.....	272.38	10,740	-12.4	382.35	52,850	+6.2
July 31.....	272.74	10,900	+8.0	382.59	53,090	+12.0
Aug. 31.....	272.17	10,640	-13.0	382.56	53,060	-1.5
Sept. 30.....	272.94	10,980	+17.5	382.57	53,070	+0.5
WTR YR 1987....	-	-	+30.5	-	-	+10.4

* Elevation at 0800 on first day of following month.

DIVERSIONS IN RARITAN RIVER BASIN

01396920 Water is diverted 4.0 mi upstream from the gaging station on South Branch Raritan River at Stanton (see station 01397000), at the Hamden Pumping Station, for storage in Round Valley Reservoir. Records provided by New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01400509 Elizabethtown Water Company diverts water from the Raritan and Millstone Rivers just upstream from the mouth of the Millstone River at Manville. Records given herein represent the total diversion from both rivers. Records provided by the Elizabethtown Water Company.

01400836 Water is diverted from Carnegie Lake (Millstone River) at Princeton to the Delaware and Raritan Canal at the aqueduct 2.3 mi upstream from the gaging station on the Delaware and Raritan Canal at Kingston (station 01460500). Negative discharge indicates flow from Canal to Carnegie Lake. Records provided by New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01402910 Water is diverted from the Raritan River just below the Millstone River to the Delaware and Raritan Canal at Ten Mile Lock for municipal supply. Negative discharge indicates flow from Canal to Millstone River. Records provided by the New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01460570 Elizabethtown Water Company diverts water from the Delaware and Raritan Canal 1200 ft downstream from Ten Mile Lock at Manville for municipal supply. Records provided by the Elizabethtown Water Company.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MONTH	01396920 HAMDEN PUMPING STATION	01400509 RARITAN AND MILLSTONE RIVERS	01400836 CARNEGIE LAKE	01402910 TEN MILE LOCK DIVERSION	01460570 DELAWARE AND RARITAN CANAL
October	0	160	-40.8	21.2	8.0
November	0	145	-59.3	20.9	12.1
December	0	149	-21.2	-2.0	3.6
CAL YR 1986	6.3	155	-16.1	19.1	6.7
January	0	147	-23.2	3.3	6.3
February	0	149	0	0	8.7
March	33.1	137	-2.7	-18.4	16.6
April	36.1	153	-3.8	-33.1	5.0
May	0	156	0	-21.2	10.8
June	0	147	3.6	4.1	31.0
July	0	157	-29.1	-7.8	21.1
August	0	154	-1.2	-3.1	27.1
September	0	150	12.1	4.2	19.7
WTR YR 1987	5.8	150	-13.8	-2.7	14.2

01407500 SWIMMING RIVER NEAR RED BANK, NJ

LOCATION.--Lat 40°19'10", long 74°06'55", Monmouth County, Hydrologic Unit 02030104, on left bank 50 ft upstream from spillway at Swimming River Reservoir, 3.3 mi southwest of Red Bank, and 4.8 mi upstream from mouth. Water-quality samples collected at bridge on Swimming River Road, 800 ft downstream from gaging station.

DRAINAGE AREA.--49.2 mi^2.

PERIOD OF RECORD.--August 1922 to current year.

REVISED RECORDS.--WDR NJ-83-1. Drainage area. WSP 891: 1939.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 30.00 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 19, 1962, at site 800 ft upstream at datum 17.67 ft lower. Jan. 19 to Mar. 30, 1962, nonrecording gage, 700 ft upstream at datum 13.87 ft lower.

REMARKS.--No estimated daily discharges. Records good above 10 ft^3/s and fair below. Records given herein represent flow over spillway and flow or leakage through blowoff gates. Diversion above station for municipal supply. Flow regulated by Swimming River Reservoir. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and record of diversion furnished by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.).

AVERAGE DISCHARGE.--65 years, 80.7 ft^3/s, 22.60 in./yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,910 ft^3/s, Oct. 27, 1943, gage height, 8.96 ft, site and datum then in use, from rating curve extended above 1,000 ft^/s on basis of weir formula; no flow some days in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in July 1919 reached a stage of 7.84 ft (site and datum then in use), from floodmark, discharge about 11,800 ft^3/s.

EXTREMES OF CURRENT YEAR.--Maximum discharge, 2,500 ft^3/s, Jan. 2, gage height, 6.50 ft; no flow many days in October, November, August, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	27	60	72	400	262	67	14	3.7	7.4	.00
2	.00	.00	52	1160	72	430	95	65	12	9.1	4.6	.00
3	.00	.00	825	323	88	179	75	67	15	430	4.0	.00
4	.00	.00	164	142	117	121	577	145	19	65	3.6	.00
5	.00	.00	68	99	95	91	386	164	45	29	1.8	.00
6	.00	.00	49	84	75	81	320	93	31	19	2.6	.00
7	.00	.00	42	84	74	77	194	63	24	14	2.5	.00
8	.00	.00	39	79	80	78	126	50	21	28	1.4	.00
9	.00	.00	262	74	118	76	105	46	18	54	.60	.00
10	.00	.00	274	107	97	65	96	38	23	41	84	.00
11	.00	.00	99	134	74	58	82	38	17	26	50	.00
12	.00	.07	133	78	75	65	79	47	13	17	22	.00
13	.00	.48	74	68	73	77	117	42	18	11	13	.00
14	.00	.71	50	62	64	70	88	43	103	13	7.6	.18
15	.00	.87	45	63	56	61	77	52	39	61	4.7	.25
16	.00	1.2	42	59	49	58	73	52	24	28	2.5	.33
17	.00	1.5	46	56	55	53	248	43	15	17	1.1	1.5
18	.00	1.7	158	116	53	52	244	36	8.7	10	.39	16
19	.00	92	293	262	49	51	127	41	5.0	5.8	.05	35
20	.00	57	96	258	45	48	98	48	2.5	7.1	.00	29
21	.00	214	69	118	47	48	87	54	1.1	6.0	.00	22
22	.00	65	58	121	48	50	79	43	.91	3.8	.00	17
23	.00	36	51	114	83	47	71	37	1.2	1.9	.00	14
24	.00	39	52	73	71	44	101	36	.85	.77	.00	10
25	.00	37	506	66	59	41	310	34	.48	.22	.00	7.2
26	.00	80	155	87	59	41	143	34	.17	4.5	.00	4.6
27	.00	211	84	73	55	41	90	35	5.0	27	.00	2.8
28	.00	63	69	60	54	73	93	38	14	20	.00	1.5
29	.00	40	63	60	---	65	91	33	11	12	.00	.85
30	.00	33	66	70	---	51	81	27	6.9	7.3	.00	.72
31	.00	---	66	91	---	385	---	20	---	8.4	.00	---
TOTAL	.00	973.53	4077	4301	1957	3077	4615	1631	508.81	980.59	213.84	162.93
MEAN	.00	32.5	132	139	69.9	99.3	154	52.6	17.0	31.6	6.90	5.43
MAX	.00	214	825	1160	118	430	577	164	103	430	84	35
MIN	.00	.00	27	56	45	41	71	20	.17	.22	.00	.00
(†)	34.1	64.9	32.0	27.0	27.8	31.7	31.0	35.1	47.1	50.8	39.7	47.6
MEAN‡	34.1	97.4	164	166	97.7	131	185	87.7	64.1	82.4	46.6	53.0
CFSM‡	0.69	1.98	3.33	3.37	1.99	2.60	3.76	1.78	1.30	1.67	0.95	1.08
IN.‡	0.80	2.21	3.85	3.89	2.07	3.06	4.19	2.05	1.45	1.93	1.09	1.20

CAL YR 1986 TOTAL 14430.96 MEAN 39.5 MAX 1140 MIN .00 MEAN‡ 82.3 CFSM‡ 1.67 IN.‡ 22.73
WTR YR 1987 TOTAL 22497.62 MEAN 61.6 MAX 1160 MIN .00 MEAN‡ 101 CFSM‡ 2.05 IN.‡ 27.88

† Diversion and change in contents in Swimming River Reservoir, in cubic feet per second.
‡ Adjusted for diversion and change in contents.

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°11'56", long 74°04'14", Monmouth County, Hydrologic Unit 02030104, on left bank 100 ft upstream from bridge on Remsen Mill Road, 0.3 mi downstream from Robins Swamp Brook, and 1.7 mi west of Neptune City.

DRAINAGE AREA.--9.96 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 7.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversion above station by Monmouth Consolidated Water Co. for municipal supply (records given herein) and by farmers for irrigation. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of diversion provided by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.).

AVERAGE DISCHARGE.--21 years, 14.3 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,010 ft^3/s, Aug. 10, 1987, gage height, 6.38 ft; maximum gage height, 7.84 ft, Dec. 26, 1969; no flow many days during most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft^3/s, Aug. 10, gage height, 6.38 ft; no flow part of many days during the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	3.8	8.1	22	14	95	46	5.2	2.9	2.5	1.9	8.5
2	11	8.2	24	277	14	89	18	4.7	9.2	38	1.4	3.4
3	10	6.2	189	74	20	26	10	4.9	3.3	46	1.7	2.2
4	12	5.9	43	26	26	17	104	32	5.3	8.9	1.4	1.3
5	10	17	25	16	21	11	68	28	5.2	5.0	1.5	1.1
6	7.2	70	21	11	15	7.3	72	18	4.5	3.8	3.6	1.3
7	3.4	23	12	10	15	7.4	27	13	3.5	3.7	1.4	1.9
8	2.3	28	7.3	8.4	14	10	18	9.1	3.1	5.5	1.1	7.3
9	3.1	31	72	7.1	19	12	17	4.8	7.9	11	1.1	10
10	2.3	22	65	18	9.2	2.6	14	3.9	5.2	6.0	323	2.5
11	1.9	32	37	22	4.3	5.2	8.5	3.1	3.3	3.7	23	1.8
12	2.2	35	42	15	3.5	8.0	7.6	2.8	3.0	3.0	5.3	1.9
13	2.8	17	25	14	2.8	6.7	13	2.3	16	2.7	3.2	8.0
14	15	13	21	7.7	5.0	8.7	12	5.1	44	5.0	3.9	3.7
15	6.9	10	20	5.3	6.6	3.1	11	7.2	5.6	5.9	3.4	2.7
16	4.0	10	18	5.6	5.5	7.1	11	6.6	4.4	2.5	2.7	2.0
17	3.3	9.5	14	6.1	5.7	6.4	57	6.0	2.9	1.9	2.3	7.2
18	3.1	10	41	35	6.2	6.2	38	5.4	2.3	1.4	1.8	18
19	2.9	79	58	75	5.9	8.2	23	6.5	1.9	2.0	1.4	11
20	3.0	26	28	64	5.6	8.8	18	9.3	1.7	3.5	1.2	7.2
21	2.9	61	19	22	5.9	5.5	16	11	1.7	3.0	.93	4.8
22	2.7	29	14	20	7.5	6.5	12	4.0	3.5	.96	1.7	6.7
23	3.0	21	14	27	9.7	5.5	12	2.2	7.2	.86	1.3	9.1
24	2.8	24	26	13	6.6	5.0	14	6.1	3.4	.88	.58	3.7
25	2.8	15	77	4.8	4.9	4.7	29	5.5	2.6	.52	.34	2.7
26	11	24	28	11	4.4	5.7	19	5.5	2.6	41	.35	2.1
27	6.6	41	14	10	5.4	4.8	8.4	5.5	29	12	15	1.9
28	4.3	24	11	9.6	4.0	11	10	5.6	3.9	4.6	11	1.9
29	4.0	19	8.1	9.6	---	8.0	9.5	4.7	4.1	5.8	5.8	1.8
30	3.9	12	15	12	---	5.8	6.8	3.9	2.8	5.9	3.2	7.6
31	3.5	---	18	17	---	112	---	3.2	---	4.0	1.9	---
TOTAL	161.4	726.6	1014.5	875.2	266.7	520.2	729.8	235.1	196.0	241.52	428.40	145.3
MEAN	5.21	24.2	32.7	28.2	9.52	16.8	24.3	7.58	6.53	7.79	13.8	4.84
MAX	15	79	189	277	26	112	104	32	44	46	323	18
MIN	1.9	3.8	7.3	4.8	2.8	2.6	6.8	2.2	1.7	.52	.34	1.1
(†)	5.6	4.4	6.6	10.6	14.1	13.7	9.5	9.2	6.4	5.7	6.2	6.1

CAL YR 1986 TOTAL 4091.21 MEAN 11.2 MAX 189 MIN .28 † 8.5
WTR YR 1987 TOTAL 5540.65 MEAN 15.2 MAX 323 MIN .34 † 8.1

† Diversion, in cubic feet per second, from Shark River by New Jersey-American Water Co., for municipal supply.

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 16...	1130	E4.0	155	6.3	11.0	9.8	89	<1.2	50	110
FEB 1987 25...	1220	3.9	231	7.1	3.0	12.4	91	<0.1	20	70
MAR 24...	1145	5.4	169	7.1	8.0	11.0	93	<0.6	20	7
JUN 24...	1030	3.5	--	6.9	16.5	7.9	81	E1.3	790	540
JUL 30...	1200	8.3	234	4.9	17.5	8.2	86	E1.2	230	170
AUG 19...	1230	1.6	208	6.5	23.5	8.0	95	2.3	490	240

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 16...	43	14	1.9	9.3	2.4	20	24	16	0.1
FEB 1987 25...	39	12	2.3	21	3.1	16	25	36	0.1
MAR 24...	39	12	2.2	13	2.9	19	24	23	0.1
JUN 24...	43	14	2.0	10	2.4	18	25	18	0.1
JUL 30...	63	20	3.1	11	4.3	<1.0	69	20	0.1
AUG 19...	36	11	2.0	11	2.7	20	31	19	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 16...	13	93	0.008	0.13	0.21	1.0	1.1	0.050	3.8
FEB 1987 25...	10	120	0.005	0.60	0.24	1.2	1.8	0.040	3.9
MAR 24...	11	100	0.011	0.45	0.57	1.1	1.5	<0.020	2.4
JUN 24...	13	95	0.010	0.24	0.29	0.52	0.76	0.053	4.6
JUL 30...	14	--	0.005	0.17	0.26	0.70	0.87	0.040	2.7
AUG 19...	11	100	0.009	0.25	0.14	1.1	1.3	0.060	2.3

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 16...	1130	--	160	0.1	3.0	--	--	3	--	--	--	<1
JUN 1987 24...	1030	<0.5	--	--	--	50	<1	--	<10	20	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 16...	--	4	<10	--	3	--	4300	--	20	--	7
JUN 1987 24...	20	--	--	2	--	2400	--	11	--	60	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 16...	--	0.01	--	<10	--	<1	--	20	--	6	<1.0
JUN 1987 24...	<0.10	--	4	--	<1	--	10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 16...	<0.1	14	2.3	1.6	4.2	0.2	0.5	5.7	<0.1	<0.1	0.3
JUN 1987 24...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 16...	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	6.4	<0.1	7.00	<10	<0.1
JUN 1987 24...	--	--	--	--	--	--	--	--	--	--	--

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°12'13", long 74°03'58", Monmouth County, Hydrologic Unit 02030104, on left bank 50 ft downstream from dam on Jumping Brook Reservoir, 0.8 mi upstream from mouth, and 1.4 mi west of Neptune City. Water-quality samples collected at bridge on Corlies Avenue, 600 ft downstream from gaging station.

DRAINAGE AREA.--6.46 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year. Records for water years 1976-83 are unpublished but are available in the files of New Jersey District Office.

REVISED RECORDS.--WDR-84-1: drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 13.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those below 10 ft^3/s and above 150 ft^3/s, which are fair. Diversion above station by Monmouth Consolidated Water Co. for municipal supply (records given herein) and by farmers for irrigation. Several measurements of water temperature, other than those published, were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of diversion provided by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.).

AVERAGE DISCHARGE.--21 years, 10.2 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORDS.--Maximum discharge, 1,830 ft^3/s, Sept. 12, 1971, from rating curve extended above 150 ft^3/s; maximum gage height, 7.00 ft, December 16, 1974; no flow June 7, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft^3/s, Aug. 10, gage height, 6.73 ft, from rating curve extended above 150 ft^3/s; minimum, 1.0 ft^3/s, July 24, gage height, 1.28 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.5	5.3	14	9.5	73	24	6.4	3.0	2.6	2.5	13
2	4.7	4.4	22	220	10	35	9.6	6.4	7.4	26	2.3	4.0
3	3.9	3.2	125	29	15	18	8.1	6.8	5.5	25	2.9	3.2
4	5.9	3.4	17	15	19	12	80	29	4.7	5.3	2.2	2.6
5	3.6	12	9.1	11	13	9.2	30	19	8.2	3.7	2.0	2.5
6	2.7	70	7.6	9.2	9.2	8.5	48	9.2	3.9	3.2	3.8	2.7
7	1.9	9.2	6.9	9.0	9.7	8.4	18	7.7	3.1	3.2	2.7	3.1
8	1.7	15	6.5	8.2	11	8.1	11	7.0	2.9	6.3	2.1	7.2
9	1.7	9.4	58	7.7	17	7.5	9.4	6.5	7.1	15	1.8	12
10	1.6	6.5	33	16	11	6.7	8.7	6.0	6.0	4.8	360	3.9
11	1.4	26	16	17	8.3	5.9	8.2	5.6	3.1	3.5	10	3.1
12	1.5	24	21	9.1	8.3	6.5	7.4	5.7	2.7	3.0	5.7	3.5
13	2.0	6.9	9.6	7.8	8.2	9.1	9.5	5.3	13	2.8	4.4	9.0
14	14	4.9	7.7	7.2	7.2	7.7	7.3	5.1	27	5.2	3.7	6.4
15	4.8	4.6	7.2	7.1	6.4	6.6	6.7	5.3	5.2	6.2	3.6	3.7
16	3.0	4.4	6.8	6.6	5.8	6.1	6.8	5.1	3.3	3.0	3.3	4.6
17	2.8	4.0	6.7	6.3	6.0	5.7	39	4.7	2.7	2.5	3.2	13
18	2.6	5.4	36	27	6.1	5.6	23	4.3	2.5	2.2	3.1	21
19	2.6	60	37	47	6.0	5.2	11	5.9	2.7	2.5	2.8	12
20	2.3	11	12	35	5.8	5.2	9.1	8.6	2.2	2.6	2.4	6.7
21	2.2	39	8.7	14	6.0	5.4	8.7	9.1	2.2	2.2	2.0	4.6
22	2.4	9.9	7.5	13	6.3	5.8	8.2	5.4	3.6	1.9	2.8	5.3
23	2.0	6.9	7.0	24	8.4	5.2	7.3	4.9	4.5	1.8	2.6	5.5
24	1.9	9.2	9.4	12	9.3	5.0	8.5	4.6	2.7	1.5	2.2	3.4
25	2.0	7.3	44	8.4	8.1	4.8	25	4.3	2.3	1.6	2.5	2.9
26	12	18	13	8.4	7.8	4.8	10	4.2	2.1	38	2.0	3.0
27	9.2	25	8.9	8.0	7.6	4.7	7.9	4.7	24	11	12	3.0
28	4.1	8.5	8.0	7.8	7.9	12	9.8	4.6	6.7	3.7	10	3.2
29	3.2	6.6	7.2	7.4	---	6.6	8.5	3.9	3.4	2.7	8.5	2.8
30	2.8	5.7	12	9.4	---	7.1	7.2	3.5	2.6	2.0	3.8	4.9
31	2.6	---	12	15	---	81	---	3.2	---	3.5	3.0	---
TOTAL	111.8	422.9	588.1	636.6	253.9	392.4	475.9	212.0	170.3	198.5	475.9	175.8
MEAN	3.61	14.1	19.0	20.5	9.07	12.7	15.9	6.84	5.68	6.40	15.4	5.86
MAX	14	70	125	220	19	81	80	29	27	38	360	21
MIN	1.4	2.5	5.3	6.3	5.8	4.7	6.7	3.2	2.1	1.5	1.8	2.5
(†)	.26	0	0	0	0	0	.08	.54	.49	.50	.52	.51

CAL YR 1986 TOTAL 3168.5 MEAN 8.68 MAX 267 MIN .88 † .22
WTR YR 1987 TOTAL 4114.1 MEAN 11.3 MAX 360 MIN 1.4 † .24

† Diversion, in cubic feet per second, from Jumping Brook, by New Jersey-American Water Co., for municipal supply.

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 16...	1030	E3.0	129	5.3	11.0	9.8	88	<0.9	90	130
FEB 1987 25...	1030	7.6	587	6.8	2.0	13.3	96	<0.4	<20	13
MAR 24...	1030	4.9	216	6.4	9.0	10.9	94	<1.0	<20	130
JUN 24...	1200	2.9	184	6.9	19.0	8.2	89	<0.9	170	240
JUL 30...	1045	2.2	179	6.3	19.5	7.6	83	<0.9	110	350
AUG 19...	1045	2.9	161	5.8	23.0	7.4	87	<1.1	230	540

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 16...	26	6.9	2.1	9.7	3.4	2.0	23	16	<0.1
FEB 1987 25...	44	13	2.9	98	2.1	5.0	31	160	0.1
MAR 24...	39	11	2.7	27	2.4	5.0	29	45	<0.1
JUN 24...	40	12	2.5	12	2.5	9.0	27	23	0.1
JUL 30...	46	14	2.7	12	2.8	7.0	33	23	0.2
AUG 19...	37	10	3.0	12	3.2	3.0	29	20	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 16...	9.1	71	0.008	0.13	0.55	0.90	1.0	0.060	5.5
FEB 1987 25...	6.5	320	0.006	0.49	0.29	0.75	1.2	<0.020	4.9
MAR 24...	7.1	130	0.006	0.50	0.22	0.49	0.99	<0.020	2.8
JUN 24...	8.6	93	0.011	0.31	0.24	0.82	1.1	0.042	6.8
JUL 30...	8.6	100	0.004	0.22	0.22	0.74	0.96	0.029	5.2
AUG 19...	10	89	0.008	0.30	0.13	0.69	0.99	0.020	5.9

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 16...	1030	<0.5	<1	<10	40	<1	<10	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 16...	1600	5	70	<0.10	4	<1	190	6

01407997 MARSH BOG BROOK AT SQUANKUM, NJ

LOCATION.--Lat 40°10'01", long 74°09'33", Monmouth County, Hydrologic Unit 02040301, at bridge on Squankum-Yellow Brook Road in Squankum, and 0.2 mi upstream from mouth.

DRAINAGE AREA.--4.91 mi^2.

PERIOD OF RECORD.--Water years 1971-74, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
21...	0930	E0.45	150	6.5	7.0	9.8	80	<0.4	50	240
FEB 1987										
25...	1330	E6.9	121	6.2	2.5	12.7	92	<0.1	<20	2
MAR										
24...	1315	E4.1	110	6.0	10.0	10.9	96	<0.3	<20	17
JUN										
24...	1330	E1.9	--	6.7	17.5	7.9	--	<0.9	460	>2400
JUL										
30...	1330	E1.6	113	6.5	19.0	7.8	84	E1.4	2200	>2400
AUG										
31...	1100	E1.9	104	6.2	15.5	9.0	90	<1.1	220	540

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
21...	43	14	1.9	7.3	2.8	16	26	13	0.5
FEB 1987									
25...	26	7.6	1.6	7.8	2.0	2.0	25	16	0.1
MAR									
24...	25	7.6	1.5	6.0	2.1	3.0	24	11	0.1
JUN									
24...	35	11	1.9	6.1	2.6	9.0	27	10	0.1
JUL									
30...	30	9.5	1.6	6.0	2.3	8.0	24	12	0.1
AUG									
31...	29	8.8	1.7	6.1	2.7	4.0	27	10	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
21...	13	88	0.010	0.24	0.18	0.60	0.84	0.070	3.2
FEB 1987									
25...	10	71	0.005	0.22	0.21	0.63	0.85	0.040	3.4
MAR									
24...	11	65	0.006	0.16	0.09	0.69	0.85	<0.020	1.4
JUN									
24...	15	79	0.012	0.24	0.42	0.90	1.1	0.090	9.1
JUL									
30...	12	72	0.005	0.17	0.21	0.92	1.1	0.094	8.2
AUG									
31...	12	71	0.010	0.22	0.19	0.58	0.80	0.080	5.3

01407997 MARSH BOG BROOK AT SQUANKUM, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1986 21...	0930	--	110	0.4	1.2	--	--	1	--	--	--	<1
JUN 1987 24...	1330	<0.5	--	--	--	50	<1	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1986 21...	--	3	<10	--	2	--	1900	--	<10	--	1
JUN 1987 24...	20	--	--	2	--	5800	--	37	--	50	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 21...	--	0.01	--	<10	--	<1	--	8	--	<1	<1.0
JUN 1987 24...	<0.10	--	3	--	<1	--	20	--	3	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 21...	<0.1	<1.0	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1987 24...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 21...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987 24...	--	--	--	--	--	--	--	--	--	--	--

01408000 MANASQUAN RIVER AT SQUANKUM, NJ

LOCATION.--Lat 40°09'47", Long 74°09'21", Monmouth County, Hydrologic Unit 02040301, on right bank 50 ft upstream from northbound bridge on State Highway 547 (Squankum Park Road) in Squankum, and 0.4 mi downstream from Marsh Bog Brook.

DRAINAGE AREA.--44.0 mi^2.

PERIOD OF RECORD.--July 1931 to current year. Monthly discharge only for July 1931, published in WSP 1302.

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 18.82 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1940, water-stage recorder at site 80 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 75.4 ft^3/s, 23.27 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,940 ft^3/s, Sept. 21, 1938, gage height, 12.45 ft, from floodmark, site then in use, from rating curve extended above 900 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 8.1 ft^3/s, Aug. 6, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	1300	933	6.97	Apr. 5	0200	817	6.55
Dec. 25	1300	621	5.70	June 14	0915	825	6.58
Jan. 2	1915	1,280	8.12	Aug. 10	1645	*1,550	*9.03
Mar. 2	0115	772	6.37				

Minimum discharge, 21 ft^3/s, Oct. 11, 12, 13, 25, gage height, 2.46 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	23	48	74	82	342	230	77	38	36	54	109
2	29	25	71	858	82	411	113	74	68	92	44	57
3	26	26	705	358	101	176	92	76	64	254	42	48
4	34	25	175	153	126	140	374	141	50	78	40	41
5	26	32	101	122	107	113	368	149	68	56	37	38
6	23	131	80	105	89	102	323	101	49	48	54	36
7	22	50	71	100	89	97	179	87	42	45	43	37
8	22	57	65	92	97	94	137	80	40	49	37	38
9	23	53	215	84	121	88	119	74	43	98	39	45
10	22	41	261	105	104	79	101	68	62	79	1070	37
11	22	75	122	122	87	74	93	64	41	50	258	35
12	22	120	167	93	84	75	86	62	38	44	97	35
13	22	54	102	82	81	83	96	61	68	41	74	58
14	44	40	81	78	75	81	83	56	518	46	61	85
15	35	36	74	76	71	75	79	58	107	110	55	46
16	26	35	69	72	66	71	77	57	71	48	50	39
17	24	33	67	68	67	68	204	53	55	40	49	46
18	23	34	130	122	67	66	177	52	50	37	47	78
19	23	182	246	235	66	64	117	56	45	45	44	55
20	23	75	112	270	64	63	99	59	42	113	41	47
21	23	181	89	129	64	63	91	66	40	51	39	43
22	23	80	77	109	66	67	83	55	44	42	41	45
23	23	59	71	117	77	63	79	52	50	38	42	68
24	22	64	72	96	81	61	88	51	43	35	36	45
25	22	58	409	80	77	60	220	49	39	33	35	40
26	37	83	146	80	75	60	126	48	37	170	35	36
27	47	163	103	78	73	57	96	49	78	109	78	35
28	28	75	89	77	72	80	95	49	57	55	84	34
29	25	61	79	72	---	70	92	46	44	45	77	34
30	24	53	79	76	---	63	83	42	38	40	52	39
31	23	---	79	93	---	332	---	39	---	102	43	---
TOTAL	812	2024	4255	4276	2311	3338	4200	2051	2029	2129	2798	1429
MEAN	26.2	67.5	137	138	82.5	108	140	66.2	67.6	68.7	90.3	47.6
MAX	47	182	705	858	126	411	374	149	518	254	1070	109
MIN	22	23	48	68	64	57	77	39	37	33	35	34
CFSM	.60	1.53	3.12	3.13	1.88	2.45	3.18	1.50	1.54	1.56	2.05	1.08
IN.	.69	1.71	3.60	3.62	1.95	2.82	3.55	1.73	1.72	1.80	2.37	1.21

CAL YR 1986 TOTAL 25037 MEAN 68.6 MAX 1010 MIN 19 CFSM 1.56 IN. 21.16
WTR YR 1987 TOTAL 31652 MEAN 86.7 MAX 1070 MIN 22 CFSM 1.97 IN. 26.75

01408120 NORTH BRANCH METEDECONK RIVER NEAR LAKEWOOD, NJ

LOCATION.--Lat 40°05'30", long 74°09'10", Ocean County, Hydrologic Unit 02040301, on upstream right bank at bridge on State Route 549, 1.0 mi upstream from confluence with South Branch Metedeconk River, and 2.3 mi east of Lakewood.

DRAINAGE AREA.--34.9 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.89 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1977, gage located on upstream left side of bridge. Nov. 17, 1977 to Dec. 19, 1984, gage located on the downstream side of bridge.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years, 63.6 ft^3/s, 24.75 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,370 ft^3/s, Nov. 8, 1977, gage height, 9.28 ft, from rating extended above 500 ft^3/s; minimum, 11 ft^3/s, many days in August and September, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2300	353	6.72	Apr. 5	0930	305	6.50
Jan. 2	2245	*449	*7.11	June 15	1145	313	6.54
Mar. 2	1615	254	6.17	Aug. 11	0330	378	6.83
Apr. 1	1100	251	6.15				

Minimum discharge, 19 ft^3/s, Oct. 11, 12, Aug. 26, 27, gage height, 2.49 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	25	45	65	76	134	231	e63	34	31	43	67
2	30	34	61	312	73	238	157	e61	47	84	41	56
3	26	34	270	341	86	206	119	e62	71	121	31	44
4	26	30	270	213	99	173	175	e98	52	100	27	33
5	25	42	153	145	93	128	286	e127	65	92	25	30
6	23	145	101	92	82	93	272	e108	53	58	31	28
7	21	113	64	76	77	80	233	e92	40	39	36	27
8	21	72	55	70	77	75	161	75	36	37	28	29
9	21	63	111	66	89	72	118	66	37	40	24	32
10	21	55	181	74	89	67	89	60	48	36	224	29
11	20	56	151	93	79	61	77	56	37	34	307	27
12	19	98	141	83	71	61	71	54	33	31	190	26
13	21	76	104	72	67	70	e73	52	40	29	97	41
14	55	50	78	64	61	71	e79	49	134	38	49	46
15	49	40	63	61	59	66	e75	49	266	44	36	39
16	31	37	57	59	58	62	e64	49	186	42	32	33
17	26	35	55	56	56	58	e116	47	94	36	30	29
18	25	35	82	83	54	56	e151	46	46	29	27	47
19	22	136	159	166	54	54	e121	47	35	30	25	52
20	22	121	140	227	52	53	e106	65	32	44	24	42
21	21	141	102	170	52	53	e88	77	31	40	22	36
22	21	116	71	132	53	55	e71	58	34	30	23	33
23	21	72	60	e109	62	55	e57	51	65	26	25	43
24	21	61	60	e83	72	52	e63	47	51	24	22	42
25	21	59	170	e73	68	50	e123	44	36	23	20	34
26	39	68	193	e67	66	50	e125	43	33	55	20	28
27	64	108	130	e69	64	49	e101	44	72	76	35	26
28	40	92	91	e66	64	66	e89	45	84	56	53	25
29	31	66	67	e66	---	62	e78	41	49	36	102	24
30	28	51	67	e67	---	57	e68	38	35	28	81	27
31	26	---	71	e77	---	159	---	35	---	41	44	---
TOTAL	859	2131	3423	3397	1953	2586	3637	1849	1876	1430	1774	1075
MEAN	27.7	71.0	110	110	69.7	83.4	121	59.6	62.5	46.1	57.2	35.8
MAX	64	145	270	341	99	238	286	127	266	121	307	67
MIN	19	25	45	56	52	49	57	35	31	23	20	24
CFSM	.79	2.04	3.16	3.14	2.00	2.39	3.47	1.71	1.79	1.32	1.64	1.03
IN.	.92	2.27	3.65	3.62	2.08	2.76	3.88	1.97	2.00	1.52	1.89	1.15

CAL YR 1986 TOTAL 21068 MEAN 57.7 MAX 475 MIN 15 CFSM 1.65 IN. 22.45
WTR YR 1987 TOTAL 25990 MEAN 71.2 MAX 341 MIN 19 CFSM 2.04 IN. 27.69

e Estimated

01408500 TOMS RIVER NEAR TOMS RIVER, NJ
(National stream quality accounting network station)

LOCATION.--Lat 39°59'10", long 74°13'29", Ocean County, Hydrologic Unit 02040301, on left bank 1.9 mi downstream from Union Branch, and 2.6 mi northwest of Toms River.

DRAINAGE AREA.--123 mi.^{2}

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October, November 1928, published in WSP 1302.

REVISED RECORDS.--WSP 1702: 1938. WDR NJ-76-1: 1975(M). WDR NJ-77-1: 1976.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--59 years, 215 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s, Sept. 23, 1938, gage height, 12.50 ft, from floodmark, from rating curve extended above 1,500 ft^3/s; minimum, 46 ft^3/s, many days in August and September 1966, gage height, 2.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 745 ft^3/s, Jan. 4, gage height, 7.82 ft; minimum, 77 ft^3/s, Oct. 10, gage height, 3.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	104	204	237	255	279	344	262	152	169	172	217
2	109	108	200	404	257	360	409	246	156	189	162	208
3	106	112	346	501	267	459	441	238	166	261	147	195
4	105	112	401	707	282	550	453	275	160	383	135	164
5	102	117	539	605	293	502	496	314	185	394	124	144
6	95	186	485	484	295	433	670	349	183	314	127	131
7	87	190	385	387	288	366	714	377	168	237	119	125
8	83	205	289	322	275	320	625	346	153	189	114	123
9	85	202	296	286	275	301	529	298	143	213	112	126
10	83	188	342	274	270	287	447	271	142	204	233	127
11	80	182	382	279	267	266	389	244	136	195	243	123
12	80	195	458	280	261	251	329	230	131	179	324	116
13	81	197	429	280	251	249	298	226	131	157	340	122
14	118	195	375	262	236	247	312	213	147	167	249	133
15	131	170	317	246	225	244	308	209	164	188	173	133
16	122	159	268	234	207	239	265	208	209	186	148	127
17	116	146	241	223	208	230	308	204	228	182	137	114
18	109	139	245	240	204	221	347	193	168	160	124	141
19	102	211	301	315	202	213	376	187	128	139	114	149
20	96	230	328	389	200	207	415	201	121	151	108	161
21	97	300	372	472	198	203	385	225	120	149	102	154
22	94	308	341	502	198	202	329	235	126	135	102	142
23	91	308	281	463	208	201	251	233	185	125	103	147
24	92	268	252	380	225	198	229	218	199	120	97	135
25	90	233	320	326	231	193	288	205	204	115	93	124
26	100	222	335	288	234	190	317	192	178	125	91	118
27	125	255	390	274	233	186	346	185	201	153	112	112
28	131	259	381	254	227	200	349	183	229	158	140	107
29	125	265	319	247	...	208	320	179	226	144	225	103
30	119	234	274	244	...	213	285	172	199	131	235	106
31	110	...	252	254	...	297	...	161	...	163	221	...
TOTAL	3172	6000	10348	10659	6772	8515	11574	7279	5038	5775	4926	4127
MEAN	102	200	334	344	242	275	386	235	168	186	159	138
MAX	131	308	539	707	295	550	714	377	229	394	340	217
MIN	80	104	200	223	198	186	229	161	120	115	91	103
CFSM	.83	1.63	2.71	2.80	1.97	2.23	3.14	1.91	1.37	1.51	1.29	1.12
IN.	.96	1.81	3.13	3.22	2.05	2.58	3.50	2.20	1.52	1.75	1.49	1.25

CAL YR 1986 TOTAL 66185 MEAN 181 MAX 960 MIN 68 CFSM 1.47 IN. 20.01
WTR YR 1987 TOTAL 84185 MEAN 231 MAX 714 MIN 80 CFSM 1.88 IN. 25.45

01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1974 to September 1981 (discontinued).
WATER TEMPERATURE: November 1963 to May 1966, November 1974 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV 1986												
25...	0800	E233	70	4.42	7.0	1.6	10.7	87	1.2	K18	310	12
JAN 1987												
28...	1130	E254	62	4.50	0.0	1.8	13.4	91	1.0	<5	K140	10
MAR												
31...	1200	299	54	5.00	12.5	3.2	8.6	83	1.1	K27	1200	9
MAY												
26...	1200	E192	67	5.00	16.0	2.2	8.6	86	1.6	32	1200	10
JUL												
28...	1100	E158	63	5.30	22.5	3.1	7.3	85	1.5	170	K2200	11
SEP												
29...	1130	105	75	5.30	17.5	2.7	9.4	98	0.8	--	--	12

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV 1986												
25...	--	2.7	1.2	4.5	1.1	<0.1	<0.1	<1	16	8.2	<0.10	5.1
JAN 1987												
28...	0.2	2.2	1.0	5.1	0.90	<0.1	<0.1	<1	12	8.9	<0.10	4.6
MAR												
31...	--	2.2	0.90	4.9	1.0	1.2	1.0	1	12	8.1	<0.10	2.7
MAY												
26...	--	2.2	1.0	5.2	0.90	8.5	7.0	7	8.0	8.3	<0.10	3.9
JUL												
28...	--	2.7	1.1	5.4	1.1	1.2	1.0	2	18	8.9	0.10	5.0
SEP												
29...	--	3.0	1.2	6.4	1.4	--	--	--	11	10	0.10	5.2

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
NOV 1986											
25...	--	9	85	<0.010	0.230	0.100	0.080	0.20	0.020	<0.050	<0.010
JAN 1987											
28...	--	10	50	0.010	0.440	0.120	0.130	0.60	0.020	0.020	<0.010
MAR											
31...	33	22	54	<0.010	0.300	0.100	0.110	0.90	0.040	<0.010	<0.010
MAY											
26...	35	8	79	<0.010	0.340	0.190	0.200	0.70	0.020	0.010	<0.010
JUL											
28...	43	19	68	<0.010	0.350	0.120	0.120	1.0	0.030	0.010	<0.010
SEP											
29...	39	--	--	<0.010	0.590	0.160	0.170	0.80	0.030	<0.010	<0.010

01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
NOV 1986 25...	0800	300	<1	32	<0.5	<1	<1	<3	6	570	7
MAR 1987 31...	1200	160	<1	30	<0.5	1	<1	<3	2	270	10
MAY 26...	1200	150	<1	23	<0.5	<1	<1	<3	<1	380	<5
SEP 29...	1130	50	<1	26	0.9	<1	<1	<3	2	130	15

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 1986 25...	<4	54	<0.1	<10	3	<1	<1	18	<6	29
MAR 1987 31...	<4	39	0.1	<10	1	<1	<1	15	<6	33
MAY 26...	<4	35	0.1	<10	<1	<1	<1	15	<6	25
SEP 29...	<4	32	<0.1	<10	7	<1	<1	17	<6	25

01409280 WESTECUNK CREEK AT STAFFORD FORGE, NJ

LOCATION.--Lat 39°40'00", long 74°19'12", Ocean County, Hydrologic Unit 02040301, 75 ft downstream from dam, 0.2 mi south of Stafford Forge, 1.2 mi downstream from Log Swamp Branch, and 2.0 mi west of Staffordville.

DRAINAGE AREA.--15.8 mi^2.

PERIOD OF RECORD.--October 1973 to current year. Occasional low-flow measurements, water years 1969-73, at site 400 ft downstream.

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6.36 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 6, 1981, water-stage recorder and wooden control at site 50 ft upstream at datum 9.42 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by dam 75 ft upstream. Several measurements of water temperature were made during the year. The minimum daily discharge on August 26 was probably caused by regulation.

AVERAGE DISCHARGE.--14 years, 32.0 ft^3/s, 27.50 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 256 ft^3/s, July 4, 1978, gage height, 3.70 ft; no flow part of May 17, 1974, Sept. 7, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 6	unknown	*108	*a11.72	No other peak greater than base discharge.			

a from maximum indicator.

Minimum daily discharge, 5.9 ft^3/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	18	e22	e34	36	42	e54	39	32	35	57	29
2	10	19	e23	e53	36	52	e50	38	33	42	52	28
3	4.7	19	e37	e58	37	54	e42	39	36	61	45	27
4	4.9	18	e37	e57	38	50	e60	48	35	61	39	26
5	8.3	20	e33	e51	38	45	e68	57	39	49	39	26
6	16	28	e29	e46	37	42	e74	54	38	41	44	20
7	16	27	e26	e43	36	40	e68	47	34	38	49	21
8	14	26	e24	e39	36	39	58	45	32	39	47	24
9	14	28	e34	e37	40	42	50	44	31	37	44	25
10	14	30	e47	e38	33	39	36	41	31	37	48	24
11	14	30	e47	e41	43	37	37	38	30	36	49	25
12	14	29	e49	e39	38	38	37	39	30	35	46	24
13	13	26	e44	e37	37	41	38	45	32	34	44	26
14	23	24	e39	e36	36	41	38	47	34	35	42	26
15	26	21	e36	e34	35	40	39	39	33	45	42	24
16	24	19	e33	e33	36	38	38	38	33	41	43	26
17	22	e17	e31	34	33	37	48	35	32	36	41	30
18	21	e17	e33	38	32	36	57	32	31	34	46	28
19	21	e22	e38	47	32	35	55	33	30	33	47	36
20	20	e22	e36	55	32	35	51	39	41	33	45	38
21	19	e28	e33	52	32	35	52	45	36	35	43	34
22	19	e27	e31	50	32	35	49	44	33	34	41	32
23	19	e24	e29	50	40	35	46	40	33	33	40	33
24	18	e23	e29	53	38	34	46	38	32	35	38	31
25	18	e23	e40	48	37	34	50	36	31	35	20	29
26	19	e23	e40	47	37	34	48	35	31	36	7.3	26
27	20	e30	e36	43	36	e33	44	36	36	38	13	26
28	19	e28	e33	40	36	e35	43	37	45	37	27	32
29	18	e26	e32	38	---	e35	44	36	41	36	36	33
30	18	e23	e31	37	---	e34	42	35	37	37	36	28
31	18	---	e32	36	---	e50	---	33	---	55	29	---
TOTAL	518.9	715	1064	1344	1009	1217	1462	1252	1022	1213	1239.3	837
MEAN	16.7	23.8	34.3	43.4	36.0	39.3	48.7	40.4	34.1	39.1	40.0	27.9
MAX	26	30	49	58	43	54	74	57	45	61	57	38
MIN	4.7	17	22	33	32	33	36	32	30	33	7.3	20
CFSM	1.06	1.51	2.17	2.74	2.28	2.48	3.08	2.56	2.16	2.48	2.53	1.77
IN.	1.22	1.68	2.51	3.16	2.38	2.87	3.44	2.95	2.41	2.86	2.92	1.97

CAL YR 1986 TOTAL 7784.9 MEAN 21.3 MAX 49 MIN 4.7 CFSM 1.35 IN. 18.32
WTR YR 1987 TOTAL 12893.2 MEAN 35.3 MAX 74 MIN 4.7 CFSM 2.24 IN. 30.35

e Estimated

01409387 MULLICA RIVER AT OUTLET OF ATSION LAKE, AT ATSION, NJ

LOCATION.--Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 02040301, at bridge on U.S. Route 206 in Atsion, at outlet of Atsion Lake, and 0.2 mi upstream from Wesickaman Creek.

DRAINAGE AREA.--26.7 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986 21...	1245	E13	31	6.7	14.0	10.2	99	E1.5	<20	23
MAR 1987 04...	1345	E144	76	4.3	4.0	11.3	85	<0.8	<20	4
APR 02...	1030	E103	47	4.4	10.5	10.9	98	<0.4	<20	<2
JUN 16...	1015	E52	46	4.7	24.0	7.2	86	<0.9	<20	27
JUL 15...	1030	E15	59	4.3	24.0	6.1	73	E1.5	170	350
AUG 06...	1345	E19	--	6.4	23.0	6.2	73	<0.9	20	>2400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986 21...	6	1.2	0.69	1.9	0.8	2.0	7.2	3.6	<0.1
MAR 1987 04...	8	2.0	0.71	2.7	0.6	<1.0	11	5.0	<0.1
APR 02...	7	1.5	0.75	2.7	0.8	<1.0	14	4.8	<0.1
JUN 16...	6	1.3	0.71	2.7	<0.1	<1.0	10	5.2	0.1
JUL 15...	5	1.2	0.60	2.6	0.9	<1.0	10	5.4	<0.1
AUG 06...	6	1.3	0.75	2.5	0.8	1.0	13	4.7	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986 21...	3.0	20	0.007	<0.05	<0.05	0.50	--	0.020	5.3
MAR 1987 04...	2.9	--	0.005	0.23	0.08	0.35	0.58	0.022	7.2
APR 02...	1.8	--	0.007	0.10	0.06	0.40	0.50	<0.020	7.6
JUN 16...	4.6	--	0.014	0.11	<0.05	1.1	1.3	0.032	28
JUL 15...	5.1	--	0.021	0.11	0.14	1.2	1.4	0.050	43
AUG 06...	5.6	29	0.022	0.38	0.17	0.90	1.3	0.050	30

01409387 MULLICA RIVER AT OUTLET OF ATSION LAKE, AT ATSION, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 16...	1015	180	2	<10	<10	<1	<10	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 16...	6900	<5	20	<0.10	<1	<1	10	3

01409400 MULLICA RIVER NEAR BATSTO, NJ

LOCATION.--Lat 39°40'28", long 74°39'55", Atlantic County, Hydrologic Unit 02040301, on right bank 2.4 mi upstream from Sleeper Branch, and 2.5 mi north of Batsto.

DRAINAGE AREA.--46.7 mi^2.

PERIOD OF RECORD.--September 1957 to current year.

REVISED RECORDS.--WRD-NJ 1969: 1958(M), 1960(M), 1967-68(M), WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 11.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Some regulation from upstream cranberry bogs and Atsion Lake. Diversions from Sleeper Branch enter river upstream of gage. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 108 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft^3/s Feb. 26, 1979, gage height, 6.14 ft; minimum, 7.0 ft^3/s, Sept. 6, 7, 8, 1966, gage height, 0.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 666 ft^3/s, Apr. 4, gage height, 4.34 ft; minimum , 25 ft^3/s, Oct. 1, 8, 9, 10, gage height, 0.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	31	94	e180	138	166	192	135	66	77	37	38
2	38	29	86	e270	139	248	197	127	62	101	36	35
3	33	28	144	e230	145	228	189	123	60	165	35	31
4	33	28	178	e330	156	249	377	150	61	144	34	29
5	32	33	162	e270	164	263	568	203	77	144	33	28
6	29	49	156	e250	154	243	563	210	78	146	39	28
7	27	61	151	e200	151	224	493	207	72	130	40	28
8	25	64	138	e170	149	204	414	199	68	108	42	30
9	25	62	144	e150	151	187	343	183	65	97	44	31
10	26	57	193	e145	139	136	292	171	62	83	50	32
11	27	57	208	e140	142	92	258	164	59	81	72	30
12	28	62	207	e135	147	88	233	159	56	80	76	29
13	31	59	199	e135	141	97	167	152	53	71	58	34
14	48	54	179	130	134	103	121	134	52	71	59	37
15	43	51	163	119	125	106	122	123	50	101	55	37
16	36	50	150	102	118	107	125	115	52	112	50	37
17	33	49	138	97	114	104	152	105	49	112	45	36
18	32	49	140	105	114	100	193	95	46	103	40	38
19	30	70	171	141	109	96	189	91	44	90	38	38
20	29	72	168	216	107	92	182	101	43	77	35	39
21	27	90	e160	235	105	90	178	111	65	69	32	39
22	26	93	e150	247	103	87	172	110	134	62	31	42
23	26	92	e140	250	104	85	159	108	97	56	31	43
24	27	96	e130	233	115	82	147	100	82	51	29	44
25	30	93	e220	187	120	79	169	90	72	48	28	43
26	39	94	e270	199	119	76	169	87	64	46	28	42
27	38	109	e330	201	121	74	160	85	64	44	30	40
28	35	113	e320	195	123	82	156	83	68	42	31	38
29	34	104	e300	171	---	84	155	80	71	40	32	37
30	35	97	e260	152	---	86	146	75	75	38	30	37
31	35	---	e200	144	---	129	---	72	---	37	30	---
TOTAL	983	1996	5649	5729	3647	4087	6981	3948	1967	2626	1250	1070
MEAN	31.7	66.5	182	185	130	132	233	127	65.6	84.7	40.3	35.7
MAX	48	113	330	330	164	263	568	210	134	165	76	44
MIN	25	28	86	97	103	74	121	72	43	37	28	28

CAL YR 1986 TOTAL 30050 MEAN 82.3 MAX 407 MIN 18
WTR YR 1987 TOTAL 39933 MEAN 109 MAX 568 MIN 25

e Estimated

01409416 HAMMONTON CREEK AT WESCOATVILLE, NJ

LOCATION.--Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road in Wescoatville, 1.1 mi southwest of Nesco, 1.7 mi upstream from Norton Branch, and 3.8 mi southwest of Batsto.

DRAINAGE AREA.--9.57 mi^2, revised.

PERIOD OF RECORD.--Water years 1974 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
14...	1030	E7.8	142	5.8	17.0	5.0	52	E6.9	>24000	>2400
MAR 1987										
03...	1100	E172	116	6.3	5.5	7.4	59	2.5	<20	79
23...	1030	E20	125	6.7	--	9.4	--	3.0	<20	920
JUN										
16...	1200	E9.1	266	5.0	22.0	3.0	34	E4.4	130	350
JUL										
15...	1330	E23	92	5.7	21.5	3.8	43	E1.3	1100	1600
AUG										
06...	1200	E11	139	6.5	21.0	1.9	21	3.3	1300	1600

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
14...	21	5.1	1.9	13	3.9	2.0	20	15	0.3
MAR 1987									
03...	22	5.5	2.0	6.6	2.8	9.0	18	11	0.2
23...	22	5.3	2.1	9.2	3.1	20	14	12	0.2
JUN									
16...	32	8.5	2.7	25	4.7	12	14	22	0.6
JUL									
15...	17	4.2	1.7	6.6	2.0	6.0	15	11	0.2
AUG									
06...	22	5.2	2.3	15	4.2	16	15	13	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
14...	8.7	69	0.115	1.60	2.40	--	--	1.42	12
MAR 1987									
03...	4.6	56	0.014	1.81	0.56	1.5	3.4	0.318	6.2
23...	5.2	63	0.035	1.38	2.20	3.5	4.8	0.700	5.0
JUN									
16...	8.1	93	0.186	1.55	5.10	7.3	8.8	1.89	18
JUL									
15...	5.8	50	0.039	0.77	0.26	1.2	1.9	0.430	15
AUG									
06...	7.9	72	0.057	1.17	0.85	2.3	3.5	1.09	12

01409416 HAMMONTON CREEK AT WESCOATVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 16...	1200	70	<1	<10	70	<1	<10	25

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUN 1987 16...	800	7	20	<0.10	6	<1	50

01409500 BATSTO RIVER AT BATSTO, NJ

LOCATION.--Lat 39°38'33", long 74°39'00", Burlington County, Hydrologic Unit 02040301, on right bank 30 ft downstream from bridge on State Highway 542 at Batsto, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--67.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for April to September 1939, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1930, 1933, 1936, 1938. WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 12, 1939; prior to Mar. 24, 1939, wooden control at site 50 ft downstream. Datum of gage is 1.4 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Considerable regulation at times by sluice gates prior to December 1954 and by automatic Bascule and sluice gates since July 1959 at Batsto Lake, 300 ft upstream, capacity, about 60,000,000 gal. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--60 years, 124 ft^3/s, 24.84 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,000 ft^3/s, not previously publisihed, Aug. 20, 1939; maximum gage height, 8.7 ft, Aug. 20, 1939, from floodmark; minimum daily discharge, 5.7 ft^3/s, Oct. 4, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 785 ft^3/s, Apr. 6; minimum daily, 50 ft^3/s, Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	53	117	143	137	141	166	e135	98	94	70	76
2	62	54	119	165	139	187	219	e130	93	126	69	73
3	57	54	143	202	140	311	222	e125	91	177	68	70
4	55	53	165	262	147	359	292	e150	92	160	66	67
5	53	55	194	245	154	304	605	e200	106	148	64	66
6	51	66	187	210	158	246	785	e215	114	134	70	65
7	51	79	168	185	155	208	681	e210	114	123	71	66
8	50	83	149	170	152	186	550	e200	108	115	71	65
9	53	81	148	158	154	173	427	192	101	110	67	68
10	53	81	159	152	153	155	324	177	95	105	73	69
11	51	80	183	143	151	152	259	167	90	112	114	66
12	50	84	199	140	146	143	222	156	86	140	213	63
13	50	90	199	139	140	136	198	154	85	128	233	67
14	67	86	198	134	136	132	175	145	87	123	195	74
15	69	82	176	128	131	133	168	138	85	137	153	77
16	65	79	163	125	123	139	156	134	84	169	126	76
17	60	77	146	122	119	137	158	127	80	177	105	73
18	58	75	146	124	118	129	181	118	78	157	94	71
19	58	90	150	143	116	124	202	111	75	135	86	70
20	56	94	163	181	115	121	200	118	74	121	79	76
21	57	119	167	251	114	118	187	131	85	110	74	78
22	55	122	159	256	112	117	177	136	131	98	72	80
23	53	128	150	239	114	110	164	133	118	92	70	81
24	51	125	143	204	119	111	161	128	103	88	68	81
25	52	119	154	187	124	112	153	123	95	84	66	77
26	56	122	176	163	128	108	163	120	89	80	66	74
27	59	126	199	149	130	108	e165	119	90	76	69	70
28	60	132	199	155	129	102	e160	116	98	75	69	66
29	59	135	183	146	---	114	e155	114	102	73	70	66
30	58	125	169	141	---	115	e145	110	99	71	70	67
31	55	---	156	141	---	133	---	106	---	72	69	---
TOTAL	1737	2749	5127	5303	3754	4864	7820	4438	2846	3610	2850	2138
MEAN	56.0	91.6	165	171	134	157	261	143	94.9	116	91.9	71.3
MAX	69	135	199	262	158	359	785	215	131	177	233	81
MIN	50	53	117	122	112	102	145	106	74	71	64	63
CFSM	.83	1.35	2.44	2.52	1.98	2.31	3.84	2.11	1.40	1.72	1.36	1.05
IN.	.95	1.51	2.81	2.91	2.06	2.67	4.29	2.44	1.56	1.98	1.56	1.17

CAL YR 1986 TOTAL 35441 MEAN 97.1 MAX 531 MIN 45 CFSM 1.43 IN. 19.44
WTR YR 1987 TOTAL 47236 MEAN 129 MAX 785 MIN 50 CFSM 1.91 IN. 25.91

e Estimated

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1925, 1956, 1962-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
14...	1230	74	28	5.6	15.0	8.4	84	<0.5	20	17
MAR 1987										
03...	1220	288	63	4.5	4.0	11.3	86	E1.3	<20	11
23...	1230	115	50	4.8	--	--	--	E0.6	<20	17
JUN										
16...	1330	83	36	5.8	23.0	6.8	80	E1.2	<20	22
JUL										
15...	1200	134	44	5.0	22.5	6.4	74	<1.1	40	350
AUG										
06...	1045	74	37	5.5	22.5	6.9	80	<0.9	20	130

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
14...	5	1.0	0.54	2.1	0.8	2.0	5.3	3.7	<0.1
MAR 1987									
03...	8	1.8	0.86	1.9	0.7	<1.0	12	4.1	<0.1
23...	10	2.5	1.0	2.6	0.9	2.0	11	5.6	<0.1
JUN									
16...	7	1.6	0.85	2.3	0.6	3.0	7.0	4.9	<0.1
JUL									
15...	6	1.3	0.58	2.0	0.6	2.0	16	5.0	<0.1
AUG									
06...	5	1.2	0.58	2.1	0.6	2.0	7.0	4.1	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
14...	4.7	19	0.006	0.05	0.17	--	--	0.040	2.6
MAR 1987									
03...	3.4	--	0.003	0.22	0.06	0.36	0.58	<0.020	6.8
23...	3.2	28	0.013	0.21	0.08	0.54	0.75	<0.020	2.6
JUN									
16...	4.8	24	0.008	0.06	0.08	0.79	0.85	0.037	12
JUL									
15...	4.9	32	0.013	0.08	0.83	0.97	1.0	0.040	12
AUG									
06...	5.1	22	--	--	--	--	--	0.030	5.9

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 16...	1330	70	<1	<10	<10	<1	10	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 16...	2400	<5	<10	<0.10	<1	<1	<10	2

01409510 BATSTO RIVER AT PLEASANT MILLS, NJ

LOCATION.--Lat 39°37'55", long 74°38'40", Burlington County, Hydrologic Unit 02040301, on right bank, 0.4 mi upstream from Mullica River, and 0.5 mi southeast of Pleasant Mills.

DRAINAGE AREA.--73.6 mi^2.

PERIOD OF RECORD.--July 1958 to current year. Annual maximum only published for 1958 to 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is -8.6 ft below National Geodetic Vertical Datum of 1929. Gage-height record converted to elevation above or below (-) National Geodetic Vertical Datum of 1929 for publication.

REMARKS.--No gage-height or doubtful record: Nov. 24 to Jan. 13. Summaries for months with short periods of no gage-height record have been estimated with negligible or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (--) lines.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 7.2 ft, Mar. 7, 1962; minimum recorded (1966-87), -0.67 ft, Jan. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.71 ft, (from crest-stage gage), Jan. 2; minimum recorded, 0.11 ft, Oct. 6, but may have been lower during period of no gage-height record.

Summaries of tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.33	3.71	--	4.71	3.27	3.89	4.01	3.44	3.40	3.58	3.53	3.78
high tide	Date	11	20	--	e2	27	31	17	20	23	12	6	19
Minimum	Elevation	0.11	0.12	--	--	0.38	0.41	0.59	0.52	0.44	0.70	0.66	0.63
low tide	Date	6	3	--	--	20	27	30	17	20	26	24	29
Mean high tide		2.77	--	--	--	2.42	2.93	3.15	2.75	2.76	2.87	2.86	2.82
Mean water level		1.64	--	--	--	1.46	2.07	2.42	1.81	1.73	1.98	1.93	1.86
Mean low tide		0.46	--	--	--	0.64	0.99	1.51	0.84	0.71	1.08	1.00	0.93

e - Date of maximum elevation determined from record at Batsto River at Batsto (station 01409500).

01409810 WEST BRANCH WADING RIVER NEAR JENKINS, NJ

LOCATION.--Lat 39°41'17", long 74°32'54", Burlington County, Hydrologic Unit 02040301, on right bank 900 ft downstream from Godfrey Bridge on Washington-Jenkins Road, 2.2 mi downstream from Hospitality Brook, and 1.2 mi southwest of Jenkins.

DRAINAGE AREA.--84.1 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-77-1: 1976. WDR NJ-81-1: 1975(P), 1976(P), 1977(P), 1978(P), 1979(P), 1980(P).

GAGE.--Water-stage recorder. Datum of gage is 10.17 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except from Nov. 24 to Jan. 7, which are fair. Some regulation by cranberry bogs and small ponds. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 144 ft^3/s, 23.25 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft^3/s, Feb. 26, 1979, gage height, 16.14 ft; minimum, 22 ft^3/s, July 24, 1977, gage height 10.16 ft; minimum gage height, 10.14 ft, July 24, 25, 26, 1985, June 30, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 5	1730	*993	*15.28	No other peak greater than base discharge.			

Minimum discharge, 42 ft^3/s, Oct. 11, Sept. 29, gage height, 10.32 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	76	e150	e195	169	245	343	153	86	87	81	65
2	88	80	e150	e370	169	372	351	141	88	143	86	63
3	77	111	e280	e500	186	393	275	140	85	322	73	59
4	72	105	e320	e525	206	319	446	197	88	244	66	57
5	93	87	e300	e465	204	264	916	303	130	183	61	55
6	84	139	e260	e360	200	249	974	300	126	136	77	55
7	76	175	e250	e251	193	230	839	276	110	121	80	56
8	64	150	e215	222	193	219	634	218	98	118	73	58
9	66	146	e240	200	199	206	482	189	94	114	64	62
10	54	125	e330	196	185	203	388	163	89	102	152	60
11	47	111	e350	201	195	191	311	149	84	104	292	54
12	55	131	e355	187	190	165	271	143	80	150	416	54
13	73	120	e330	173	185	189	255	140	85	130	314	58
14	161	111	e280	152	174	179	252	129	92	113	217	61
15	183	101	e230	147	160	165	210	122	87	163	158	61
16	126	100	e175	142	144	169	169	115	82	163	121	65
17	110	91	e140	134	138	154	247	108	75	140	96	58
18	94	86	e155	154	134	145	343	118	71	116	73	56
19	82	136	e210	239	123	147	330	109	66	95	70	61
20	93	144	e225	348	125	136	313	128	64	83	65	59
21	91	201	e200	400	128	132	332	160	87	76	57	59
22	78	213	e175	401	169	126	298	160	147	65	57	68
23	68	205	e155	400	179	140	301	150	123	60	58	93
24	80	e200	e145	350	180	137	235	140	106	59	56	69
25	74	e195	e260	267	180	129	228	128	92	56	51	62
26	89	e195	e340	243	176	120	215	119	84	55	52	61
27	110	e235	e305	237	167	133	188	118	97	54	61	68
28	111	e230	e270	223	166	129	191	120	105	50	65	55
29	98	e205	e254	196	---	125	182	110	95	47	68	48
30	88	e175	e245	181	---	129	170	101	91	47	62	51
31	70	---	e210	183	---	261	---	92	---	71	53	---
TOTAL	2719	4379	7504	8242	4817	5901	10689	4739	2807	3467	3275	1811
MEAN	87.7	146	242	266	172	190	356	153	93.6	112	106	60.4
MAX	183	235	355	525	206	393	974	303	147	322	416	93
MIN	47	76	140	134	123	120	169	92	64	47	51	48
CFSM	1.04	1.74	2.88	3.16	2.05	2.26	4.24	1.82	1.11	1.33	1.26	.72
IN.	1.20	1.94	3.32	3.65	2.13	2.61	4.73	2.10	1.24	1.53	1.45	.80

CAL YR 1986 TOTAL 45777 MEAN 125 MAX 913 MIN 33 CFSM 1.49 IN. 20.24
WTR YR 1987 TOTAL 60350 MEAN 165 MAX 974 MIN 47 CFSM 1.97 IN. 26.69

e Estimated

01409815 WEST BRANCH WADING RIVER AT MAXWELL, NJ
(National stream-quality accounting network station)

LOCATION.--Lat 39°40'30", long 74°32'28", Burlington County, Hydrologic Unit 02040301, at bridge on State Highway 563 in Maxwell, 1.6 mi southeast of Washington, 1.8 mi southwest of Jenkins, and 2.2 mi upstream from confluence with Oswego River.

DRAINAGE AREA.--85.9 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

REMARKS.--Water-stage recorder located at station 01409810.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV 1986												
25...	1040	E199	52	4.1	7.0	1.9	9.9	81	1.0	12	140	4
JAN 1987												
28...	1330	E227	50	4.2	0.0	1.7	11.3	77	0.3	<1	K12	3
MAR												
31...	0900	E266	43	4.1	11.0	2.3	8.8	81	0.4	24	1000	3
MAY												
26...	0900	E121	38	4.2	14.5	5.6	8.3	81	1.3	K10	520	3
JUL												
28...	0845	E51	37	4.3	19.5	4.7	7.7	84	0.5	K8	K360	3
SEP												
29...	0930	E49	40	3.8	16.5	3.1	8.6	88	0.8	--	--	3

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 1986											
25...	0.2	0.80	0.50	2.3	0.7	<0.1	<0.1	<1	12	4.7	<0.1
JAN 1987											
28...	--	0.70	0.40	2.1	0.4	<0.1	<0.1	<1	11	4.3	<0.1
MAR											
31...	0.1	0.60	0.40	1.9	0.5	<0.1	<0.1	<1	9.7	3.4	<0.1
MAY											
26...	--	0.60	0.40	2.0	0.3	<0.1	<0.1	<1	<5.0	4.6	<0.1
JUL											
28...	--	0.57	0.39	2.0	0.5	<0.1	<0.1	<1	7.9	3.9	0.1
SEP											
29...	0.1	0.66	0.41	2.5	0.6	<0.1	<0.1	<1	6.8	3.3	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
NOV 1986											
25...	4.8	5	80	<0.010	<0.10	<0.01	<0.010	0.20	0.010	<0.010	<0.010
JAN 1987											
28...	4.3	5	78	<0.010	<0.10	<0.01	0.020	0.40	0.010	0.010	<0.010
MAR											
31...	3.4	15	70	<0.010	<0.10	0.01	0.020	0.80	0.020	0.010	<0.010
MAY											
26...	4.5	11	93	<0.010	<0.10	0.04	0.050	0.50	0.030	0.010	<0.010
JUL											
28...	6.2	23	93	<0.010	<0.10	0.05	0.060	0.70	0.040	0.020	<0.010
SEP											
29...	5.9	11	79	<0.010	<0.10	0.02	0.030	0.60	0.030	<0.010	<0.010

01409815 WEST BRANCH WADING RIVER AT MAXWELL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
NOV 1986 25...	1040	250	<1	16	<0.5	<1	<1	<3	6	650	6
MAR 1987 31...	0900	160	<1	13	<0.5	1	<1	<3	4	520	<5
MAY 26...	0900	160	<1	13	<0.5	<1	<1	<3	1	720	20
SEP 29...	0930	130	<1	14	<0.5	<1	<1	<3	2	320	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 1986 25...	<4	19	<0.1	<10	3	<1	<1	7	<6	25
MAR 1987 31...	<4	13	<0.1	<10	1	<1	<1	6	<6	12
MAY 26...	<4	12	0.1	<10	<1	<1	<1	5	<6	12
SEP 29...	<4	13	<0.1	<10	3	<1	<1	7	<6	12

01410000 OSWEGO RIVER AT HARRISVILLE, NJ

LOCATION.--Lat 39°39'47", long 74°31'26", Burlington County, Hydrologic Unit 02040301, on right bank 50 ft downstream from bridge on State Highway Spur 563 at Harrisville, and 0.5 mi upstream from confluence with West Branch Wading River.

DRAINAGE AREA.--72.5 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1955, published as "East Branch Wading River at Harrisville".

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since June 23, 1939. Datum of gage is 4.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Figures given herein represent flow over main spillway and through bypass channel. Flow regulated by Harrisville Pond 200 ft above station, capacity, about 30,000,000 gal and by ponds and cranberry bogs 5 to 10 mi upstream. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--57 years, 87.1 ft^3/s, 16.31 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, Aug. 20, 1939, gage height, 9.54 ft, from high-water mark in gage house, from rating curve extended above 640 ft^3/s; no flow part of Oct. 26, 1932, June 10, 1970, and May 29, 30, 1974, while pond was filling.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 508 ft^3/s, Apr. 6, gage height, 4.90 ft; minimum, 31 ft^3/s, Oct. 8, Aug. 26, 27, gage height, 2.82 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	51	92	107	106	151	198	106	60	59	66	45
2	53	48	95	214	110	223	186	101	54	95	64	43
3	45	45	172	276	118	232	154	101	51	257	63	42
4	43	46	187	281	e128	198	251	144	57	224	62	39
5	44	51	159	242	e127	168	422	200	84	161	60	38
6	42	89	137	198	e123	147	497	192	85	120	74	38
7	35	91	132	165	e118	138	430	164	76	98	72	38
8	33	94	115	135	e117	155	329	143	68	86	65	39
9	36	108	137	118	e111	120	229	130	63	83	67	39
10	36	108	190	117	e108	121	190	117	59	83	86	40
11	36	105	192	123	e110	102	163	122	54	76	93	34
12	34	101	191	119	e108	97	140	118	54	74	91	36
13	35	90	175	111	e106	99	130	118	57	69	81	40
14	99	79	151	105	e103	100	120	106	60	72	73	43
15	121	73	127	101	e91	96	111	113	59	87	80	45
16	96	69	99	97	e86	99	106	105	58	83	60	44
17	68	60	81	91	e85	108	147	94	54	78	62	42
18	55	56	93	120	e84	96	185	91	51	69	53	44
19	57	85	122	180	e82	80	178	78	50	63	47	54
20	57	85	124	236	e82	72	158	83	49	58	44	59
21	54	115	107	223	e81	69	154	102	67	53	41	54
22	52	120	93	220	e92	67	142	97	67	59	42	51
23	49	110	85	216	e98	68	131	90	60	43	57	49
24	46	108	83	161	e105	67	149	86	44	44	61	46
25	43	109	145	163	101	66	172	86	48	47	35	43
26	53	111	155	144	104	70	156	75	49	49	31	42
27	60	137	137	134	104	71	157	74	65	45	36	44
28	56	135	123	119	101	87	142	77	72	40	41	45
29	51	118	126	112	---	93	126	74	73	40	45	42
30	47	104	125	109	---	90	115	70	62	41	40	45
31	47	---	113	108	---	158	---	78	---	65	38	---
TOTAL	1623	2701	4063	4845	2889	3508	5768	3335	1810	2521	1830	1303
MEAN	52.4	90.0	131	156	103	113	192	108	60.3	81.3	59.0	43.4
MAX	121	137	192	281	128	232	497	200	85	257	93	59
MIN	33	45	81	91	81	66	106	70	44	40	31	34
CFSM	.72	1.24	1.81	2.16	1.42	1.56	2.65	1.48	.83	1.12	.81	.60
IN.	.83	1.39	2.08	2.49	1.48	1.80	2.96	1.71	.93	1.29	.94	.67

CAL YR 1986 TOTAL 25924 MEAN 71.0 MAX 459 MIN 26 CFSM .98 IN. 13.30
WTR YR 1987 TOTAL 36196 MEAN 99.2 MAX 497 MIN 31 CFSM 1.37 IN. 18.56

e Estimated

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrietns were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)
OCT 1986									
20...	1045	57	47	4.2	11.5	10.0	91	E1.5	<20
MAR 1987									
04...	1115	197	68	4.4	4.5	12.0	92	--	<20
19...	1230	78	44	4.4	9.0	10.7	93	<0.8	<20
JUN									
03...	1200	52	45	4.1	22.5	10.6	122	<0.6	<20
JUL									
14...	1230	67	60	4.4	26.0	7.5	93	<0.4	<20
AUG									
04...	1230	62	43	4.2	25.0	7.5	91	<1.0	<20

DATE	STREP-TOCOCCI FECAL (MPN)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 1986									
20...	2	4	0.88	0.52	2.3	1.0	<1.0	8.8	4.2
MAR 1987									
04...	17	3	0.63	0.38	2.1	0.4	<1.0	12	3.5
19...	5	3	0.66	0.42	2.2	0.6	<1.0	10	3.7
JUN									
03...	49	3	0.61	0.35	2.2	0.4	<1.0	8.6	4.2
JUL									
14...	920	3	0.60	0.30	2.6	0.8	<1.0	11	4.4
AUG									
04...	11	3	0.65	0.30	2.2	0.8	<1.0	8.0	4.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
20...	<0.1	6.7	0.006	<0.05	<0.31	--	--	0.020	3.9
MAR 1987									
04...	<0.1	4.3	0.004	0.15	0.07	0.45	0.60	<0.020	5.4
19...	<0.1	4.9	0.005	<0.05	0.07	0.40	--	<0.020	2.8
JUN									
03...	<0.1	5.4	0.006	<0.05	0.11	E0.07	--	<0.020	4.3
JUL									
14...	<0.1	5.9	0.009	<0.05	0.09	0.61	--	<0.020	10
AUG									
04...	0.1	6.2	<0.003	<0.05	0.12	0.50	--	<0.020	6.1

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)
OCT 1986 20...	1045	0.1	1.2	4	<1	1	<10	2	2600	<10

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 20...	2	0.01	<10	<1	3	<1	<1.0	<0.1	<1.0	0.5

DATE	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 20...	0.1	0.2	<0.1	<0.1	1.9	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986 20...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ

LOCATION.--Lat 39°37'23", long 74°26'30", Burlington County, Hydrologic Unit 02040301, on left bank upstream of bridge on Stage Road, 0.7 mi west of Lake Absegami, 2.2 mi north of New Gretna, and 5.3 mi upstream from mouth.

DRAINAGE AREA.--8.11 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1969 to 1974. January 1978 to current year.

REVISED RECORDS.--WDR NJ-81-1: 1978-80(P).

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulation by Lake Absegami. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--9 years, 15.2 ft^3/s, 22.45 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 260 ft^3/s, July 4, 1978, gage height, 5.87 ft; minimum, 5.6 ft^3/s, July 8, 1986, gage height, 3.47 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharges of 65 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	2045	*52	*4.92	No peak greater than base discharge.			

Minimum discharge, 6.4 ft^3/s, Oct. 1, 6, 7, 8, 9, gage height, 3.60 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	7.7	11	24	24	26	35	20	15	11	12	e9.9
2	7.9	8.0	12	38	24	33	27	19	15	19	11	e9.6
3	7.9	8.2	24	40	26	29	21	19	16	33	11	e9.0
4	7.4	7.9	23	33	27	24	38	29	16	24	10	e9.0
5	7.1	9.1	16	28	26	21	48	37	24	16	e11	e8.6
6	6.7	16	13	26	24	19	45	31	20	13	e12	e8.3
7	6.4	14	13	25	23	18	39	25	15	13	e13	e8.5
8	6.5	11	13	25	23	18	34	23	14	15	e11	e8.6
9	6.6	11	22	24	24	18	29	22	14	13	e11	e8.8
10	7.4	9.8	35	26	24	15	26	22	13	12	e12	e8.9
11	7.1	9.7	31	29	22	14	25	21	13	11	e13	e8.4
12	6.7	11	29	26	22	14	24	21	13	11	e12	e8.7
13	7.1	10	26	24	22	16	24	22	13	11	e11	e9.7
14	15	9.3	22	23	21	17	23	21	12	12	e11	e9.5
15	17	9.0	21	22	20	16	22	21	12	16	e11	e9.2
16	11	9.1	21	22	19	14	22	20	12	13	e10	9.5
17	9.0	8.9	20	21	19	13	35	20	11	11	e10	9.3
18	8.7	9.0	22	24	19	13	40	19	11	11	e10	10
19	8.3	13	26	33	19	13	32	20	11	11	e9.9	14
20	8.0	13	23	37	19	13	28	24	11	11	e9.7	14
21	7.9	16	20	32	18	13	28	28	11	11	e9.2	11
22	7.7	15	19	30	18	13	27	23	13	11	e9.2	11
23	7.7	11	18	32	21	12	24	20	12	10	e10	11
24	7.6	11	19	29	23	12	24	19	11	10	e10	10
25	7.5	11	27	26	22	12	29	19	11	10	e11	10
26	9.1	12	26	26	20	11	26	18	11	10	e9.8	9.8
27	11	18	22	26	20	11	22	18	17	10	e9.5	9.5
28	9.3	15	20	25	19	14	22	18	21	10	e8.3	9.3
29	8.4	12	19	24	---	16	23	18	15	9.8	e9.3	9.2
30	8.0	11	19	24	---	15	21	17	11	10	e9.3	9.7
31	7.8	---	21	25	---	30	---	16	---	15	e9.2	---
TOTAL	260.3	336.7	653	849	608	523	863	670	414	403.8	326.4	292.0
MEAN	8.40	11.2	21.1	27.4	21.7	16.9	28.8	21.6	13.8	13.0	10.5	9.73
MAX	17	18	35	40	27	33	48	37	24	33	13	14
MIN	6.4	7.7	11	21	18	11	21	16	11	9.8	8.3	8.3
CFSM	1.04	1.38	2.60	3.38	2.68	2.08	3.55	2.66	1.70	1.61	1.30	1.20
IN.	1.19	1.54	3.00	3.89	2.79	2.40	3.96	3.07	1.90	1.85	1.50	1.34

CAL YR 1986 TOTAL 3933.5 MEAN 10.8 MAX 35 MIN 6.3 CFSM 1.33 IN. 18.04
WTR YR 1987 TOTAL 6199.2 MEAN 17.0 MAX 48 MIN 6.4 CFSM 2.09 IN. 28.43

e Estimated

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)
OCT 1986									
23...	1245	7.7	41	5.3	10.5	8.3	74	<0.6	<20
FEB 1987									
19...	1130	19	44	4.4	3.0	11.7	87	<0.3	20
MAR									
19...	1100	13	54	4.6	6.0	9.3	75	<0.7	<20
JUN									
03...	1030	16	44	4.2	18.0	6.1	64	<0.3	20
JUL									
14...	1100	11	41	5.1	20.0	5.8	64	<0.2	<20
AUG									
04...	1045	10	35	4.6	18.5	6.2	66	<1.0	20

DATE	STREP-TOCOCCI FECAL (MPN)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 1986									
23...	33	4	0.60	0.63	2.8	0.8	<1.0	6.7	5.0
FEB 1987									
19...	2	4	0.66	0.61	3.1	0.6	<1.0	8.0	5.8
MAR									
19...	110	4	0.68	0.47	2.6	0.6	<1.0	9.5	4.4
JUN									
03...	3500	3	0.53	0.51	3.0	0.6	<1.0	11	6.3
JUL									
14...	920	3	0.60	0.40	3.3	0.7	<1.0	13	5.2
AUG									
04...	170	4	0.75	0.44	3.1	0.7	<1.0	10	5.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986								
23...	<0.1	8.7	0.008	<0.050	0.110	0.50	<0.020	2.2
FEB 1987								
19...	<0.1	6.9	<0.003	<0.050	0.130	0.30	0.030	3.0
MAR								
19...	<0.1	6.7	0.005	<0.050	0.160	0.24	<0.020	2.5
JUN								
03...	<0.1	5.9	0.005	<0.050	0.150	0.53	<0.020	5.4
JUL								
14...	<0.1	7.8	0.009	<0.050	0.110	0.52	<0.020	4.6
AUG								
04...	0.1	8.2	<0.003	<0.050	0.080	0.45	<0.020	3.3

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1986 23...	1245	<0.5	80	<1	--	--	<1	--	--
JUN 1987 03...	1030	<0.5	150	<1	<10	<10	<1	<10	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 23...	170	<5	20	<0.10	4	<1	140	3
JUN 1987 03...	240	<5	<10	<0.10	4	<1	<10	--

01410784 GREAT EGG HARBOR RIVER NEAR SICKLERVILLE, NJ

LOCATION.--Lat 39°44'02", long 74°57'05", Camden County, Hydrologic Unit 02040302, at bridge on Sicklerville-New Freedom Road (Spur 536), 1.5 mi northeast of Sicklerville, and 2.7 mi upstream of New Brooklyn Lake dam.

DRAINAGE AREA.--15.1 mi^2.

PERIOD OF RECORD.--Water years 1972 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	1200	E5.7	185	6.1	10.0	4.1	36	2.5	79	140
FEB 1987										
18...	1045	E15	138	6.5	1.5	11.5	82	3.4	5	80
MAR										
25...	1030	E13	107	6.5	6.5	9.8	79	2.3	<20	210
JUN										
02...	1115	E10	120	6.3	19.0	5.1	55	1.2	110	490
JUL										
20...	1015	E12	112	6.0	19.0	5.0	54	0.3	50	1100
AUG										
12...	1015	E15	78	5.1	18.0	4.4	47	1.5	170	230

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	27	7.0	2.3	18	4.1	18	13	18	<0.1
FEB 1987									
18...	21	5.2	2.0	12	2.3	14	16	17	<0.1
MAR									
25...	21	5.2	2.0	9.7	2.5	18	16	12	<0.1
JUN									
02...	21	5.2	1.9	11	2.5	10	14	16	<0.1
JUL									
20...	23	5.6	2.1	11	2.4	9.0	15	14	<0.1
AUG									
12...	16	4.1	1.4	6.3	2.0	4.0	18	10	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	8.0	81	0.066	3.28	0.53	1.3	4.6	0.730	4.0
FEB 1987									
18...	5.6	68	0.005	0.77	1.28	2.0	2.8	0.320	6.4
MAR									
25...	4.7	63	0.012	0.56	1.60	2.6	3.2	0.700	5.5
JUN									
02...	6.0	63	0.029	1.96	0.17	1.4	3.4	0.665	10
JUL									
20...	5.7	61	<0.003	1.47	0.09	1.0	2.5	0.370	13
AUG									
12...	6.1	50	0.010	0.48	0.24	1.4	1.8	0.330	32

01410784 GREAT EGG HARBOR RIVER NEAR SICKLERVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1986 08...	1200	<0.5	30	<1	<10	80	<1	<10	10

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 08...	260	<5	10	<0.10	2	<1	20	3

01410820 GREAT EGG HARBOR RIVER NEAR BLUE ANCHOR, NJ

LOCATION.--39°40'09", long 74°54'49", Camden County, Hydrologic Unit 02040302, downstream side of bridge on Broad Lane Road, 1.9 mi southwest of Blue Anchor, and 2.1 mi downstream from confluence of Fourmile Branch.

DRAINAGE AREA.--37.3 mi^2.

PERIOD OF RECORD.--Water years 1972 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	0930	E22	77	6.3	10.0	9.8	86	0.9	79	350
FEB 1987										
18...	0945	E47	99	6.2	1.5	11.5	82	0.9	8	70
MAR										
25...	0930	E44	75	6.0	7.5	9.8	81	1.0	<20	140
JUN										
02...	1000	E35	73	6.1	18.5	6.9	74	0.7	70	270
JUL										
20...	0930	E39	82	6.0	18.5	6.5	69	0.4	20	3500
AUG										
12...	0930	E47	65	5.1	18.5	5.9	63	0.8	80	330

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	15	3.3	1.6	6.4	2.0	8.0	9.5	9.2	<0.1
FEB 1987									
18...	16	3.6	1.7	8.8	1.6	6.0	11	13	<0.1
MAR									
25...	16	3.4	1.8	6.2	1.5	6.0	10	8.9	<0.1
JUN									
02...	15	3.2	1.6	6.1	1.5	7.0	13	9.1	<0.1
JUL									
20...	15	3.4	1.6	8.7	1.6	8.0	16	12	<0.1
AUG									
12...	14	3.4	1.4	5.5	1.8	4.0	16	9.2	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	6.5	43	0.006	1.34	0.16	0.42	1.8	0.200	4.1
FEB 1987									
18...	4.6	48	0.006	1.14	0.34	0.80	1.9	0.070	5.1
MAR									
25...	2.7	38	0.013	1.10	0.14	0.69	1.8	0.120	5.0
JUN									
02...	5.8	45	0.009	1.10	0.12	1.0	2.1	0.207	8.6
JUL									
20...	6.3	54	0.007	1.61	0.11	0.88	2.5	0.310	15
AUG									
12...	6.2	46	0.009	0.34	0.07	0.93	1.3	0.230	30

01410820 GREAT EGG HARBOR RIVER NEAR BLUE ANCHOR, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT 1986											
08...	0930	<0.5	--	--	--	50	<1	--	<10	30	<1
08...	0930	--	170	<0.1	2.7	--	--	1	--	--	--
JUN 1987											
02...	1000	<0.5	--	--	--	130	<1	--	<10	<10	<1

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 1986											
08...	--	<10	--	--	14	--	310	--	10	--	20
08...	<1	--	2	<10	--	<1	--	520	--	10	--
JUN 1987											
02...	--	<10	--	--	3	--	960	--	<5	--	10

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
08...	--	<0.10	--	1	--	<1	--	70	--	3	--
08...	9	--	0.10	--	<10	--	<1	--	4	--	<1
JUN 1987											
02...	--	0.10	--	1	--	<1	--	10	--	<1	--

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	<1.0	<0.1	0.7	0.4	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1987											
02...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1986											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1987											
02...	--	--	--	--	--	--	--	--	--	--	--

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, NJ

LOCATION.--Lat 39°35'42", long 74°51'06", Atlantic County, Hydrologic Unit 02040302, on left bank 25 ft upstream from bridge on State Highway 54, 1.0 mi south of Folsom, and 2.0 mi upstream from Pennypot Stream.

DRAINAGE AREA.--57.1 mi^2.

PERIOD OF RECORD.--September 1925 to current year. Prior to October 1947, published as "Great Egg River at Folsom".

REVISED RECORDS.--WSP 1432: 1928(M), 1933. WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Nov. 26, 1934. Datum of gage is 53.32 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 6, 1941, water-stage recorder at site 100 ft downstream at same datum. Mar. 6 to Oct. 5, 1941, nonrecording gage at site 145 ft downstream at datum 0.25 ft higher.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Recording rain-gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years, 86.3 ft^3/s, 20.50 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft^3/s, Sept. 3, 1940, gage height, 9.09 ft; minimum, 15 ft^3/s, Sept. 6, 1957, Aug. 28-30, 1966; minimum gage height, 3.42 ft, Aug. 28-30, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 405 ft^3/s, Dec. 27, gage height, 5.78 ft; minimum, 32 ft^3/s, Apr. 5, gage height, 3.57 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	41	82	132	93	103	136	118	63	e65	35	42
2	45	41	76	144	95	173	171	107	60	73	35	43
3	59	42	93	184	100	257	163	100	58	93	35	44
4	65	42	113	214	108	257	171	106	58	113	34	41
5	53	44	141	201	117	221	220	135	68	119	35	38
6	46	57	138	170	120	182	298	185	74	108	55	37
7	42	63	119	142	116	149	326	195	76	97	62	37
8	39	69	102	124	110	126	301	173	71	87	70	37
9	38	71	97	113	107	118	258	144	66	76	75	38
10	38	71	110	106	106	109	212	124	62	67	82	39
11	37	68	130	103	106	102	174	109	59	66	85	38
12	36	68	145	103	104	97	144	99	56	68	80	36
13	37	70	142	100	101	95	126	96	55	63	71	38
14	46	70	132	97	98	95	114	94	53	61	64	42
15	54	65	117	92	93	95	107	93	52	84	55	44
16	54	59	104	89	87	94	101	92	50	91	48	44
17	49	56	93	86	81	90	106	89	51	98	44	43
18	45	55	89	87	80	87	122	85	48	92	41	45
19	43	69	101	104	79	84	146	82	e49	79	40	57
20	41	78	118	152	78	81	153	88	e47	67	38	56
21	40	93	131	207	e78	79	142	98	e53	58	36	56
22	39	100	122	212	78	78	129	106	e81	52	36	54
23	39	104	108	190	80	77	117	108	e80	49	37	53
24	38	101	97	161	83	76	110	102	e71	46	36	53
25	38	92	148	134	90	75	116	94	e62	44	35	55
26	40	87	311	111	95	73	133	86	e57	43	34	56
27	47	92	397	106	98	72	164	81	e56	41	34	51
28	50	98	329	98	98	75	177	79	e61	39	36	46
29	48	101	245	95	---	80	158	78	e63	38	38	42
30	45	94	193	96	---	84	135	75	e66	37	39	42
31	43	---	155	94	---	101	---	70	---	36	39	---
TOTAL	1374	2161	4478	4047	2679	3485	4930	3291	1826	2150	1484	1347
MEAN	44.3	72.0	144	131	95.7	112	164	106	60.9	69.4	47.9	44.9
MAX	65	104	397	214	120	257	326	195	81	119	85	57
MIN	36	41	76	86	78	72	101	70	47	36	34	36
CFSM	.78	1.26	2.53	2.29	1.68	1.97	2.88	1.86	1.07	1.21	.84	.79
IN.	.90	1.41	2.92	2.64	1.75	2.27	3.21	2.14	1.19	1.40	.97	.88

CAL YR 1986 TOTAL 28743 MEAN 78.7 MAX 397 MIN 25 CFSM 1.38 IN. 18.72
WTR YR 1987 TOTAL 33252 MEAN 91.1 MAX 397 MIN 34 CFSM 1.60 IN. 21.66

e Estimated

01411110 GREAT EGG HARBOR RIVER AT WEYMOUTH, NJ

LOCATION.--Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream from Deep Run, and 20.9 mi upstream from mouth.

DRAINAGE AREA.--154 mi^2.

PERIOD OF RECORD.--Water years 1975 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1986										
08...	0900	E107	57	6.2	11.5	9.2	83	0.6	14	170
FEB 1987										
18...	0900	E226	65	4.9	0.5	13.3	92	0.5	2	79
MAR										
25...	0900	E211	57	5.0	7.0	9.6	79	0.7	2	920
JUN										
02...	0900	E172	56	5.7	20.5	7.6	85	0.8	110	120
JUL										
20...	0900	E211	52	5.2	20.5	7.2	80	0.8	33	1100
AUG										
12...	0900	E235	61	4.5	19.5	7.3	80	0.9	220	240

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1986									
08...	10	2.2	1.2	4.8	1.5	4.0	9.8	8.2	<0.1
FEB 1987									
18...	12	2.4	1.4	5.9	1.1	2.0	13	11	<0.1
MAR									
25...	11	2.2	1.3	4.5	1.1	1.0	10	7.5	<0.1
JUN									
02...	10	2.1	1.1	4.3	1.6	3.0	12	8.0	<0.1
JUL									
20...	9	2.1	1.0	4.3	1.0	2.0	13	8.0	<0.1
AUG									
12...	12	2.5	1.3	5.1	1.3	2.0	13	8.3	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1986									
08...	7.0	37	0.004	0.57	0.23	0.47	1.0	0.080	4.2
FEB 1987									
18...	5.5	41	0.004	0.64	0.19	0.51	1.2	0.030	5.4
MAR									
25...	3.8	31	0.006	0.52	0.09	0.90	1.4	<0.050	4.2
JUN									
02...	5.3	36	0.008	0.43	0.12	1.1	1.5	0.095	11
JUL									
20...	6.4	37	<0.003	0.42	0.10	1.0	1.5	0.110	18
AUG									
12...	6.6	39	0.006	0.21	0.07	0.88	1.1	0.100	14

01411110 GREAT EGG HARBOR RIVER AT WEYMOUTH, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1987 02...	0900	<0.5	200	<1	<10	<10	<1	<10	22

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1987 02...	1400	38	20	0.10	5	<1	30	<1

01411300 TUCKAHOE RIVER AT HEAD OF RIVER, NJ

LOCATION.--Lat 39°18'25", long 74°49'15", Cape May County, Hydrologic Unit 02040302, on right bank at highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.

DRAINAGE AREA.--30.8 mi^2.

PERIOD OF RECORD.--December 1969 to current year.

REVISED RECORDS.--WDR NJ-78-1: 1975(M), 1976(M).

GAGE.--Water-stage recorder, wooden control, and downstream tidal crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation by ponds above station. Fish gate open Apr. 1 to June 1. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 44.5 ft^3/s, 19.62 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 510 ft^3/s, May 31, 1984, elevation, 6.17 ft; maximum elevation, 7.01 ft, Mar. 29, 1984; minimum daily discharge, 1.3 ft^3/s, Sept. 3, 13, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 203 ft^3/s, Mar. 2, elevation, 4.12 ft; minimum, 10 ft^3/s, Aug. 21, 22, 25, 31, Sept. 1, 5, 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	34	56	61	116	130	51	29	21	15	13
2	18	22	41	121	62	196	110	49	30	30	15	13
3	21	24	68	154	70	169	89	47	30	38	14	12
4	18	22	85	131	81	139	112	65	31	36	14	12
5	17	25	68	105	81	113	153	109	35	39	14	11
6	15	34	52	84	74	93	150	101	34	35	17	12
7	15	36	45	69	68	80	136	81	31	29	19	12
8	14	32	40	62	67	73	116	68	29	28	18	12
9	14	30	46	57	74	71	99	59	28	29	16	12
10	14	28	80	61	77	76	83	53	27	26	15	12
11	15	28	89	80	78	70	72	49	27	26	15	11
12	14	30	95	78	72	65	65	45	26	28	14	12
13	15	29	88	67	71	74	66	45	27	25	14	14
14	34	26	68	59	68	81	65	43	27	25	13	14
15	52	25	55	55	62	76	60	42	26	27	13	13
16	51	24	49	53	55	69	57	43	25	25	13	12
17	36	23	46	50	52	62	78	41	24	23	13	12
18	28	22	51	55	51	57	103	39	23	21	12	17
19	25	34	87	101	51	54	96	38	23	19	12	24
20	22	42	90	158	50	52	84	46	22	18	12	26
21	20	46	72	146	50	51	75	57	22	17	11	20
22	20	49	58	123	50	51	68	54	24	17	11	20
23	20	42	50	119	55	50	61	49	26	16	12	22
24	19	36	50	103	70	49	60	44	26	15	12	18
25	19	36	120	87	79	47	67	41	25	15	11	14
26	24	36	155	62	75	46	69	38	23	15	11	13
27	29	44	126	58	70	45	60	38	23	17	12	13
28	28	47	97	58	66	54	57	37	22	16	13	13
29	25	41	76	58	---	71	58	35	21	16	13	13
30	22	37	65	62	---	71	54	33	20	15	12	13
31	21	---	59	64	---	97	---	31	---	15	12	---
TOTAL	701	971	2205	2596	1840	2418	2553	1571	786	722	418	435
MEAN	22.6	32.4	71.1	83.7	65.7	78.0	85.1	50.7	26.2	23.3	13.5	14.5
MAX	52	49	155	158	81	196	153	109	35	39	19	26
MIN	14	21	34	50	50	45	54	31	20	15	11	11
CFSM	.73	1.05	2.31	2.72	2.13	2.53	2.76	1.65	.85	.76	.44	.47
IN.	.85	1.17	2.66	3.14	2.22	2.92	3.08	1.90	.95	.87	.50	.53

CAL YR 1986 TOTAL 13114 MEAN 35.9 MAX 155 MIN 12 CFSM 1.17 IN. 15.83
WTR YR 1987 TOTAL 17216 MEAN 47.2 MAX 196 MIN 11 CFSM 1.53 IN. 20.79

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial record stations.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower stages may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined. The gage heights are heights on the upstream side of the bridge, above the dam or at the discontinued continuous-record gaging station unless otherwise noted.

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Hackensack River basin					
*01378385	Tenakill Brook at Closter, NJ	Lat 40°58'29", long 73°58'06", Bergen County, Hydrologic Unit 02030103, at bridge on High Street in Closter, 0.7 mi upstream from mouth. Datum of gage is 23.85 ft above National Geodetic Vertical Datum of 1929.	8.56	1965-87	4-04-87	b2.29	460
*01378590	Metzler Brook at Englewood, NJ	Lat 40°54'29", long 73°59'13", Bergen County, Hydrologic Unit 02030103, at bridge on Lantana Avenue in Englewood, and 1.6 mi upstream from mouth. Datum of gage is 43.10 ft above National Geodetic Vertical Datum of 1929.	1.54	1965-87	11-21-86	b1.55	94.0
		Passaic River basin					
01378690	Passaic River near Bernardsville, NJ	Lat 40°44'03", long 74°32'26", Somerset County, Hydrologic Unit 02030103, at bridge on U.S. Route 202, 1.8 mi northeast of Bernardsville, and 3.0 mi upstream from Great Brook. Datum of gage is 238.07 ft above National Geodetic Vertical Datum of 1929.	8.83	1968-76‡, 1977-87	4-05-87	b13.57	700
01379845	Rockaway River at Warren Street, at Dover, NJ	Lat 40°53'08", long 74°33'36", Morris County, Hydrologic Unit 02030103, on left bank, 100 ft upstream from bridge on Warren Street, in Dover, 4.0 mi west of Denville and 6 mi southeast of Lake Hopatcong. Datum of gage is 561.83 ft above National Geodetic Vertical Datum of 1929.	52.1	1981-87	4-05-87	6.25	1,600
01387880	Pond Brook at Oakland, NJ	Lat 41°01'36", long 74°14'04", Bergen County, Hydrologic Unit 02030103, at bridge on NJ Route 208 in Oakland, 0.2 mi upstream from former site at Franklin Avenue (prior to October 1975), 0.6 mi upstream from mouth, and 1.5 mi northwest of Frnaklin Lakes. Datum of gage is 276.97 ft above National Geodetic Vertical Datum of 1929.	6.76	1968-71, 1976-86	4-04-87	2.46	490

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum: Date	Annual Maximum: Gage height (ft)	Annual Maximum: Discharge (ft^3/s)
		Passaic River basin--Continued					
01389030	Preakness (Singac) Brook near Preakness, NJ	Lat 40°56'55", long 74°13'25", Passaic County, Hydrologic Unit 02030103, at bridge on Ratzer Road, 1.0 mi north of Preakness, and 2.0 mi upstream from Naachtpunkt Brook. Datum of gage is 230.8 ft above National Geodetic Vertical Datum of 1929.	3.24	1979-87	4-04-87	b-unknown	e465
01389534	Peckman River at Ozone Avenue, at Verona, NJ	Lat 40°50'42", long 74°14'09", Passaic County, Hydrologic Unit 02030103, at bridge on Ozone Avenue in Verona, 4.0 mi west of Clifton and 1.0 mi southwest of Cedar Grove Reservoir. Datum of gage is 300.08 ft above National Geodetic Vertical Datum of 1929.	4.45	1945, 1979-87	9-13-87	6.14	3,000
01389765	Molly Ann Brook at North Haledon, NJ	Lat 40°57'11", long 74°11'07", Passaic County, Hydrologic Unit 02030103, at bridge on Overlook Avenue in North Haldeon, 1.5 mi west of Hawthorne and 0.5 mi upstream from Oldham Pond Dam. Datum of gage is 209.68 ft above National Geodetic Vertical Datum of 1929.	3.89	1945, 1979-87	11-21-86	6.66	630
01389900	Fleischer Brook at Market Street, at Elmwood Park, NJ	Lat 40°53'57", long 74°06'54", Bergen County, Hydrologic Unit 02030103, at culvert on Market Street in Elmood Park (formerly East Paterson), and 2.0 mi upstream from mouth. Datum of gage is 35.31 ft above National Geodetic Vertical Datum of 1929.	1.37	1967-87	9-13-87	2.73	153
*01390450	Saddle River at Upper Saddle River, NJ	Lat 41°03'32", long 74°05'44", Bergen County, Hydrologic Unit 02030103, at culvert on Lake Street in Upper Saddle River, and 1.3 mi downstream from Pine Brook. Datum of gage is 186.11 ft above National Geodetic Vertical Datum of 1929.	10.9	1966-87	4-04-87	4.46	1,650
01390810	Hohokus Brook at Allendale, NJ	Lat 41°01'37", long 74°08'44", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale, and 0.2 mi downstream from Valentine Brook. Datum of gage is 277.46 ft above National Geodetic Vertical Datum of 1929.	9.11	1969-87	4-04-87	6.00	500
01390900	Ramsey Brook at Allendale, NJ	Lat 41°01'44", long 74°08'07", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale and 0.6 mi upstream from Hohokus Brook. Datum of gage is 270.79 ft above National Geodetic Vertical Datum of 1929.	2.55	1975-87	4-04-87	3.31	350
01392500	Second River at Belleville, NJ	Lat 40°47'17", long 74°10'19", Essex County, Hydrologic Unit 02030103, on Mill Street in Branch Brook Park at Belleville, 300 ft downstream from Franklin Avenue, and 1,100 ft downstream from Hendricks Pond dam. Datum of gage is 62.6 ft above National Geodetic Vertical Datum of 1929.	11.6	1937-64‡, 1963-87	11-26-86	6.15	2,480

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		Raritan River basin					
01397500	Walnut Brook near Flemington, NJ	Lat 40°30'55", long 74°52'52", Hunterdon County, Hydrologic Unit 02030105, bank 1.2 mi northwest of Flemington, and 2.3 mi upstream from mouth. Datum of gage is 267.33 ft above National Geodetic Vertical Datum of 1929.	2.24	1936-61‡, 1963-86	11-26-86	3.42	715
01399690	South Branch Rockaway Creek at Whitehouse Station	Lat 40°37'24", long 74°46'01", Hunterdon County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on U.S. Route 22, 0.6 mi north of Whitehouse Station, 0.9 mi west of Whitehouse, and 0.3 mi upstream from mouth.	13.2	1977-76‡ 1987	4-04-87	10.34	890
01399700	Rockaway Creek at Whitehouse, NJ	Lat 40°37'55", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, on right bank at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth. Datum of gage is 99.64 ft. National Geodetic Vertical Datum of 1929.	37.1	1959-62, 1964-65, 1977-84‡, 1985-87	4-04-87	7.27	2,280
01399830	North Branch Raritan River at North Branch, NJ	Lat 40°36'00", long 74°40'27", Somerset County, Hydrologic Unit 02030105, on right bank 5 ft upstream from bridge on State Highway 28 in North Branch, 0.1 mi south of River Brook, and 3.6 mi upstream from confluence with South Branch Raritan River. Datum of gage is 56.94 ft above National Geodetic Vertical Datum of 1929.	174	1977-81‡, 1982-87	12-03-86	12.47	7,800
01400630	Millstone River at Southfield Road, near Grovers Mill, NJ	Lat 40°18'12", long 74°34'33", Mercer County, Hydrologic Unit 02030105, at bridge on Southfield Road, 0.2 mi southeast at Grovers Mill, 3.5 mi southwest of Cranbury, and 3.0 mi upstream of Bear Brook. Datum of gage is 62.63 ft above National Geodetic Vertical Datum of 1929.	41.0	1971,75, 1979-87	7-03-87	6.90	1,200
01400730	Millstone River at Plainsboro, NJ	Lat 40°19'27", long 74°36'51", Mercer County, Hydrologic Unit 02030105, 30 ft upstream from railroad bridge on AMTRAK (former Penn Central) mainline, 100 ft downstream from Cranbury Brook, 0.2 mi upstream from Bear Brook, and 0.9 mi southwest of Plainsboro. Datum of gage is 53.41 ft above National Geodetic Vertical Datum of 1929.	65.8	1965-75‡, 1976-87	7-04-87	6.14	1,860
01400775	Bear Brook at Route 535, near Locust Corner, NJ	Lat 40°16'41", long 74°34'39" Mercer County, Hydrologic Unit 02030105, at bridge on State Route 535, 0.9 mi southwest of Locust Corner, 2.0 mi east of Hightstown, and 4.2 mi above mouth. Datum of gage is 73.75 ft above National Geodetic Vertical Datum of 1929.	6.69	1971,75, 1979-87	7-03-87	b7.43	1,190

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Raritan River basin--Continued					
01400795	Bear Brook at Route 571, near Grovers Mill, NJ	Lat 40°17'41", long, 74°35'34", Mercer County, Hydrologic Unit 02030105, at bridge on Route 571 (Princeton - Hightstown Road), 1.2 mi upstream of Grovers Mill Pond, 1.4 mi east of Princeton Junction, and 2.9 mi west of U.S. Route 130 and Hightstown.	9.28	1986-87	7-03-87	10.95	880
01400822	Little Bear Brook at Penns Neck, NJ	Lat 40°19'21", long 74°37'37", Mercer County, Hydrologic Unit 02030105, at downstream side of bridge on Alexander Road, 0.9 mi southeast of Penns Neck, 2.8 mi southwest of Plainsboro and 1.0 mi above mouth. Datum of gage is 53.96 ft above National Geodetic Vertical Datum of 1929.	1.84	1971,1975 1979-87	7-03-87	3.27	107
01400900	Stony Brook at Glenmoore, NJ	Lat 40°21'55", long 74°47'14", Mercer County, Hydrologic Unit 02030105, at highway bridge on Spur State Route 518, 200 ft east of tracks of CONRAIL, at Glenmoore, and 2.0 mi southwest of Hopewell. Datum of gage is 159.1 ft above National Geodetic Vertical Datum of 1929.	17.0	1957-87	7-03-87	b7.96	3,075
*01400930	Baldwin Creek at Pennington, NJ	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 31, 0.8 mi north of Pennington, and 0.9 mi upstream from Baldwin Lake dam. Datum of gage is 161.69 ft above National Geodetic Vertical Datum of 1929.	1.99	1960-87	4-04-87	7.05	670
01400950	Hart Brook near Pennington, NJ	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, at culvert on Federal City Road, 1.6 mi upstream of mouth, and 1.7 mi southeast of Pennington. Datum of gage after July 1, 1975 is 163.32 ft above National Geodetic Vertical Datum of 1929.	0.57	1968-87	7-14-87	5.27	470
01401160	Duck Pond Run near Princeton Junction, NJ	Lat 40°17"47", long 74°38'47", Mercer County, Hydrologic Unit 02030105, on right bank upstream from bridge on Clarksville Road, 1.5 mi southwest of Princeton Junction, and 4.0 mi south of Princeton. Datum of gage is 72.50 ft above National Geodetic Vertical Datum of 1929.	1.35	1980-87	7-03-87	5.95	213
01401301	Millstone River at Carnegie Lake, at Princeton, NJ	Lat 40°22'11", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at right end of Carnegie Lake dam, 2.5 mi northeast of Princeton. Datum of gage is 50.00 ft above National Geodetic Vertical Datum of 1929.	159	1977-87,	7-03-87	4.81	5,640
01401595	Rock Brook near Blawenburg, NJ	Lat 40°25'47", long 74°41'05", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Hill Road, 0.7 mi upstream from mouth, 1.0 mi northeast of Blawenburg, and 2.8 mi northwest of Rocky Hill. Datum of gage is 63.45 ft above National Geodetic Vertical Datum of 1929.	9.03	1967-87	4-04-87	b5.38	1,480

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		Raritan River basin--Continued					
01401600	Beden Brook near Rocky Hill, NJ	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton. Datum of gage is 38.09 ft above National Geodetic Vertical Datum of 1929.	27.6	1967-87	4-04-87	b10.20	3,500
01401870	Six Mile Run near Middlebush, NJ	Lat 40°28'12", long 74°32'42", Somerset County, Hydrologic Unit, 02030105, at bridge on South Middlebush Road, 1.6 mi upstream from mouth, and 2.1 mi south of Middlebush. Datum of gage is 39.91 ft above National Geodetic Vertical Datum of 1929.	10.7	1966-87	7-14-87	8.48	2,850
01403395	Blue Brook at Seeleys Pond Dam, near Berkeley Heights, NJ	Lat 40°40'02", long 74°24'13", Union County, Hydrologic Unit 02030105, on wall on right bank, upstream from Seeleys Pond spillway, 300 ft north of Scotch Plains, 1.0 mi west of Mountainside, and 4.5 mi southeast of Berkeley Heights. Datum of gage is 202.05 ft National Geodetic Vertical Datum of 1929.	3.59	1973, 1981-87	4-04-87	4.84	256
01403500	Green Brook at Plainfield, NJ	Lat 40°36'53", Long 74°25'55", Union County, Hydrologic Unit 02030105, on left bank 20 ft downstream from bridge on Sycamore Avenue in Plainfield and 1.0 mi upstream from Stony Brook. Datum of gage is 70.37 ft above National Geodetic Vertical Datum of 1929.	9.75	1938-84‡ 1985-87	11-26-86	3.80	957
		Navesink River basin					
01407290	Big Brook at Marlboro, NJ	Lat 40°19'10", long 74°12'52", Monmouth County, Hydrologic Unit 02030104, downstream side of bridge on Hillsdale Road, 1.7 mi east of Marlboro, and 3.0 mi northwest of Colts Neck.	6.42	1980-87	1-02-87	b8.36	1,030
		Manasquan River basin					
*01407830	Manasquan River near Georgia, NJ	Lat 40°12'36", long 74°16'41", Monmouth County, Hydrologic Unit 02040301, at culvert on Jacksons Mill Road near Georgia, and 0.5 mi upstream from Debois Creek. Datum of gage is 70.47 ft above National Geodetic Vertical Datum of 1929.	10.6	1969-87	8-10-87 4-10-83 1-04-82 2-20-81 4-10-80 1-21-79 11-08-77 2-25-77 8-10-76 12-17-74 12-21-73 11-15-72 11-30-71 8-28-71	13.34 11.61 11.17 10.26 9.78 10.63 10.81 11.28 12.12 12.61 9.39 9.00 10.03 11.54	705 d603 d548 d445 d385 d485 d503 d565 d673 d742 d342 d305 d415 d595
*01408015	Mingamahone Brook at Farmingdale, NJ	Lat 40°11'38", long 74°09'42", Monmouth County, Hydrologic Unit 02040301, at bridge on Belmar Road in Farminodale, and 3.0 mi upstream from mouth. Datum of gage is 48.64 ft above National Geodetic Vertical Datum of 1929.	6.20	1969-87	1-02-87	5.29	189

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Manasquan River basin--Continued					
*01408030	Manasquan River at Allenwood, NJ	Lat 40°08'35", long 74°07'03", Monmouth County, Hydrologic Unit 02040301, at bridge on Hospital Road at Allenwood, and 1.5 mi downstream from Mill Run. Datum of gage is 3.56 ft above National Geodetic Vertical Datum of 1929.	63.9	1969-87	8-10-87	b9.60	1,950
		Mullica River basin					
*01409375	Mullica River near Atco, NJ	Lat 39°47'08", long 74°51'38", Burlington County, Hydrologic Unit 02040301, on left bank of small lake 50 ft downstream from bridge on Jackson-Medford Road, 0.7 mi north of intersection of State Route 534 with Jackson-Medford Road, and 1.6 mi east of Atco. Datum of gage is 102.90 ft above National Geodetic Vertical Datum of 1929.	3.22	1975-87 (discontinued)	8-12-87	b5.01	28
*01409403	Wildcat Branch at Chesilhurst, NJ	Lat 39°44'04", long 74°51'33", Camden County, Hydrologic Unit 02040301, at culvert on Old White Horse Pike, 0.5 mi east of Chesilhurst, and 0.9 mi north of Waterford Works. Datum of gage is 98.98 ft National Geodetic Vertical Datum of 1929.	1.03	1975-87 (discontinued)	12-27-86	5.07	11.5
*01409409	Blue Anchor Brook near Blue Anchor, NJ	Lat 39°41'17", long 74°51'00", Camden County, Hydrologic Unit 02040302, at bridge on Spring Garden Road, 4,000 ft upstream of Route 30 highway bridge, 1.8 mi east of Blue Anchor and 2.2 mi upstream from mouth. Datum of gage is 84.94 ft above National Geodetic Vertical Datum of 1929.	3.01	1975-87 (discontinued)	unknown	f	<12
		Great Egg Harbor River basin					
01410810	Fourmile Branch at New Brooklyn, NJ	Lat 39°41'47", long 74°56'25", Camden County, Hydrologic Unit 02040302, on left bank 70 ft upstream from bridge on Malaga Road, 0.3 mi northeast of New Brooklyn, 0.3 mi upstream from mouth. Datum of gage is 101.04 ft above National Geodetic Vertical Datum of 1929.	7.74	1972-79‡, 1980-87	12-27-86	4.75	113

* Also a low-flow partial-record station.
** Also a tidal crest-stage station.
† Discharge not determined.
‡ Operated as a continuous-record gaging station.
< Less than the follwoing figure.
b Downstream side of bridge.
c Not previously published.
d Revised.
e Estimated.
f Peak gage height below recordable level.

Low-flow partial-record stations

Measurements of streamflow in New Jersey made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from groundwater storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1987

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Hudson River basin				
01367700	Wallkill River at Franklin, NJ	Lat 41°06'43", long 74°35'21", Sussex County, Hydrologic Unit 02020007, at bridge on Franklin Avenue (Route 631) at Franklin, 100 ft downstream of Franklin Pond and 0.5 mi northeast of State Route 23.	29.4	1959-64 1982-83, 1985, 1987	9-23-87	122
		Passaic River basin				
01378700	Passaic River at outlet of Osborn Pond at Osborn Mills, NJ	Lat 40°43'09", long 74°31'52", Somerset County, Hydrologic Unit 02030103, 800 ft downstream from dam on Osborn Pond, 0.9 mi above Penns Brook, and 1.3 mi northeast of Basking Ridge.	10.0	1961-63, 1968, 1987	5-29-87 9-03-87	5.7 5.0
01379200	Dead River near Millington, NJ	Lat 40°56", long 74°31'26", Morris County, Hydrologic Unit 02030103, at bridge on King George Road (Spur State Route 527), 100 ft upstream from mouth, 2.0 mi south of Millington, and 4.2 mi south of Basking Ridge.	20.8	1962-67, 1973-75, 1986-87	7-23-87 9-03-87 9-24-87	11 7.4 15
01379570	Passaic River at Hanover, NJ	Lat 40°48'02", long 74°21'34", Morris County, Hydrologic Unit 02030103, at bridge on State Route 10, 0.6 mi southeast of Hanover, 3.5 mi southeast of Whippany, and 4.8 mi above Rockaway River.	128	1961-63, 1968, 1987	9-03-87	79
01381200	Rockaway River at Pine Brook, NJ	Lat 40°51'42, long 74°20'53", Morris County, Hydrologic Unit 02030103,at bridge on U.S. Route 46, 0.9 mi west of Pine Brook, and 1.1 mi upstream of Whippany River.	136	1963-73, 1979-81, 1983-87	7-23-87 9-24-87	33 151
01381800	Whippany River near Pine Brook, NJ	Lat 40°50'42", long 74°20'51", Morris County, Hydrologic Unit 02030103, at bridge on Edwards Road, 0.3 mi upstream from mouth, and 1.3 mi southwest of Pine Brook.	68.5	1963-68, 1978, 1979-81, 1983-87	C1-06-83 7-23-87 9-24-87	178 50 58
01382000	Passaic River at Two Bridges, NJ	Lat 40°53'50", long 74°16'23", Essex County, Hydrologic Unit 02030103, at bridge on Two Bridges Road, just above confluence with Pompton River, 0.3 mi northeast of Two Bridges and 2.6 mi northwest of Little Falls.	361	1963-68, 1983-84, 1986-87	6-30-87	194
01389000	Pompton River at Two Bridges, NJ	Lat 40°53'52", long 74°16'22", Essex County, Hydrologic Unit 02030103, at bridge on Two Bridges Road, just upstream of mouth, 0.3 mi northeast of Two Bridges and 2.6 mi northeast of Little Falls.	372	1963-68, 1984, 1986-87	7-23-87 9-24-87	130 129

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Passaic River basin--Continued				
01389100	Singac Brook at Singac, NJ	Lat 40°53'57", long 74°15'57", Passaic County, Hydrologic Unit 02030103, at bridge on Fairfield Road, between U.S. Routes 80 and 46, 60 ft upstream from mouth, 1.2 mi northwest of Signac and 1.8 mi northwest of Little Falls.	11.1	1963-67, 1983-84, 1986-87	7-23-87 9-24-87	26 23
01389600	Peckman River at McBride Avenue at West Paterson, NJ	Lat 40°53'32", long 74°12'43", Passaic County, Hydrologic Unit 02030103, at bridge on McBride Avenue, 0.2 mi upstream from mouth, 0.7 mi west of West Paterson and 3.2 mi southwest of Paterson.	10.1	1963-67, 1983-84, 1986-87	10-22-86 6-18-87 7-23-87 9-24-87	10 12 17 21
		Raritan River basin				
01396280	South Branch Raritan River at Middle Valley, NJ	Lat 40°45'40", long 74°49'18", Morris County, Hydrologic Unit 02030105, at bridge on Middle Valley Road, at Middle Valley, 200 ft northwest of West Mill Road (State Route 513), and 0.2 mi upstream of CONRAIL railroad bridge.	47.7	1963-67, 1973, 1975, 1982-83, 1985-87	8-18-87	33
01397290	Assiscong Creek at Bartles Corners, NJ	Lat 40°32'23", long 74°50'52" Hunterdon County, Hydrologic Unit 02030105, at bridge on River Road, 0.3 mi upstream from mouth, 1.5 mi north of Flemington, and 2.8 mi west of Three Bridges.	2.98	1981-87	7-23-87 9-24-87	.92 .80
01397800	Neshanic River near Flemington, NJ	Lat 40°28'46", long 74°51'29" Hunterdon County, Hydrologic Unit 02030105, at bridge on Kuhl Road, 200 ft downstream from confluence of First Neshanic River and Second Neshanic River, 1.4 mi south of Flemington, and 2.1 mi west of Reaville.	11.4	1981-87	7-23-87 9-24-87	3.2 .46
01397900	Third Neshanic River near Ringoes, NJ	Lat 40°27'31", long 74°52'05", Hunterdon County, Hydrologic Unit 02030105, at bridge on Eitts Road, 2.0 mi upstream from mouth, 2.1 mi north of Ringoes, and 3.0 mi southwest of Reaville.	9.24	1981-87	7-23-87 9-28-87	6.0 1.3
01398052	Back Brook near Reaville, NJ	Lat 40°27'32", long 74°49'24", Hunterdon County, Hydrologic Unit 02030105, at bridge on Manners Road, 0.6 mi upstream from mouth, 0.8 mi northwest of Wertsville, and 1.5 mi southeast of Reaville.	11.4	1981-87	7-23-87 9-28-87	4.0 .94
01398075	Pleasant Run at Centerville, NJ	Lat 40°32'17", long 74°45'17", Hunterdon County, Hydrologic Unit 02030105, at bridge on Old York Road in Centerville, 2.4 mi northwest of Neshanic Station, 2.5 mi upstream from mouth, and 2.7 mi northwest of Three Bridges.	8.11	1982-87	7-23-87 9-24-87	1.9 2.0
01398260	North Branch Raritan River near Chester, NJ	Lat 40°46'16", long 74°34", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24, 0.8 mi upstream from Burnett Brook, and 3.8 mi east of Chester.	7.57	1964-67, 1980-87	8-18-87	3.6

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
*01399700	Rockaway Creek near Whitehouse, NJ	Lat 40°37'49", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth.	37.1	1959-62, 1964-65, 1973, 1977-84‡ 1986-87*	a9-16-86 8-18-87	12 20
01400540	Millstone River near Manalapan, NJ	Lat 40°15'44", long 74°25'13", Monmouth County, Hydrologic Unit 02030105, at bridge on State Route 33, 1.3 mi west of Manalapan, 5.5 mi east of Hightstown and 8.4 mi upstream of Rocky Brook.	7.37	1960-62, 1964, 1971-72, 1985, 1987	8-26-87	5.9
01400640	Millstone River at Grovers Mill, NJ	Lat 40°18'48", long 74°35'22", Mercer County, Hydrologic Unit 02030105, at bridge on Cranberry Neck Road, 1.0 mi east of Grovers Mill, 1.8 mi upstream from Cranberry Brook, and 1.8 mi east of Princeton Junction.	42.6	1959-62, 1964-65, 1971-72, 1986-87	a9-22-86 8-25-87	21 25
*01400900	Stony Brook at Glenmore, NJ	Lat 40°21'55", long 74°14", Mercer County, Hydrologic Unit 02030105, at bridge on Pennington-Hopewell Road (State Route 518 Spur), at entrance to Hopewell Valley Country Club, 0.3 mi downstream of unnamed tributary and 2.6 mi north of Pennington.	17.0	1957-62, 1964, 1969-71, 1985-87	8-13-87	2.0
*01400930	Baldwin Creek at Pennington, NJ	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105 at bridge on U.S. Route 31, 450 ft downstream of unnamed tributary, 0.4 mi north of Pleasant Valley Road and 0.8 mi from Pennington.	1.99	1957-59, 1963, 1965-69, 1972, 1985-87	8-13-87	1.0
*01400947	Stony Brook at Pennington, NJ	Lat 40°19'50", long 74°46'05", Mercer County, Hydrologic Unit 02030105, 25 ft upstream from dam on Stony Brook at Old Mill Road, 1.3 mi east of Pennington and 1.4 mi downstream from Baldwin Creek.	26.7	1965-69, 1971-72, 1985-86	8-13-87	5.3
01400970	Honey Branch near Rosedale, NJ	Lat 40°20'26", long 74°44'39", Mercer County, Hydrologic Unit 02030105, at bridge on Elm Ridge Road, 0.2 mi above mouth, and 1.2 mi west of Rosedale.	3.83	1957-59, 1968-73, 1975, 1985-87	8-13-87	.18
01401100	Stony Brook at Clarksville, NJ	Lat 40°18'34", long 74°40'52", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 533 (Quaker Road) 600 ft upstream of Duck Pond Run, 0.9 mi north of Clarksville and 2.7 mi southwest of Penns Neck.	46.5	1959-62, 1964, 1987	8-13-87	15
01401520	Beden Brook near Hopewell, NJ	Lat 40°23'02", long 74°44'28", Mercer County, Hydrologic Unit 02030105, at bridge on Aunt Molly Road, 0.8 mi upstream from Province Line Road and 1.2 mi east of Hopewell.	6.67	1965, 1987	8-14-87	1.44
01401590	Rock Brook at Blawenberg, NJ	Lat 40°24'40", long 74°42'10", Somerset County, Hydrologic Unit 02030105, at bridge on Great Road, 0.3 mi north of Blawenburg, 1.7 mi upstream of mouth and 3.7 mi west of Rocky Hill.	8.0	1962-67, 1971-72, 1987	8-13-87	3.7

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
*01401600	Beden Brook near Rocky Hill, NJ	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206 and State Route 533, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill and 4.6 mi north of Princeton.	27.6	1959-63, 1965-67, 1971-72, 1977, 1979-83, 1986-87	4-02-87 6-01-87 8-13-87 8-25-87	56 9.8 12 2.0
01404060	Ambrose Brook at Middlesex, NJ	Lat 40°03", long 74°31'02", Middlesex County, Hydrologic Unit 02030105, at dam, 900 ft upstream from bridge on State Route 18 in Middlesex, and 0.7 mi upstream from mouth.	13.9	1979-87	7-23-87 9-24-87	5.0 10
01404180	Mill Brook at Highland Park, NJ	Lat 40°30'23", long 74°25'51", Middlesex County, Hydrologic Unit 02030105, at bridge on Harrison Street in Highland Park, 0.7 mi upstream from mouth, and 0.9 mi northeast of New Brunswick.	1.41	1979-87	7-23-87	10
01405170	Milford Brook at Englishtown, NJ	Lat 40°18'02", long 74°20'07", Monmouth County, Hydrologic Unit 02030105, at bridge on Conmack Road, 0.6 mi upstream from McGellairds Brook, 1.2 mi east of Englishtown, and 2.0 mi southwest of Gordons Corner.	4.86	1982, 1984-87	7-23-87 9-25-87	2.0 2.7
01405180	McGellairds Brook at Englishtown, NJ	Lat 40°18'06", long 74°21'26", Monmouth County, Hydrologic Unit 02030105, at bridge on Wilson Avenue in Englishtown, 0.8 mi downstream from Milford Brook, 1.0 mi southeast of Monmouth-Middlesex County line, and 5.5 mi northwest of Freehold.	14.9	1982, 1984-87	7-23-87 9-25-87	10 11
01405210	Pine Brook at Clarks Mills, NJ	Lat 40°18'58", long 74°19'51", Monmouth County, Hydrologic Unit 02030105, at bridge on Winthrop Drive, 1.3 mi east of Clarks Mills, 1.9 mi upstream of Matchaponix Brook, and 4.8 mi northwest of Freehold.	4.66	1982, 1984-87	7-23-87 9-25-87	3.2 3.7
01405240	Matchaponix Brook near Englishtown, NJ	Lat 40°19'21", long 74°21'35", Middlesex County, Hydrologic Unit 0203105, at bridge on Union Hill Road, 1.9 mi north of Englishtown, 2.8 mi northwest of Gordons Corner and 3.9 mi upstream of Barclay Brook.	29.1	1979-87	7-23-87 9-24-87	30 36
01405285	Barclay Brook near Englishtown, NJ	Lat 40°20'53", long 74°21'27", Middlesex County, Hydrologic Unit 02030105, at bridge on State Route 527 (Old Bridge-Englishtown Road), 0.6 mi south of Redshaw Corner, 0.9 mi upstream from mouth, and 3.5 mi north of Englishtown.	4.94	1979-87	7-23-87	1.8
01405300	Matchaponix Brook at Spotswood, NJ	Lat 40 22'53", long 74°22'51", Middlesex County, Hydrologic Unit 02030105, 0.9 mi southeast of Spotswood, 1.1 mi upstream from confluence with Manalapan Brook, and 2.3 mi southwest of Old Bridge.	43.9	1952-67‡, 1968-87b	9-24-87	38
01405335	Manalapan Brook near Manalapan, NJ	Lat 40 16'45", long 74°22'53", Monmouth County, Hydrologic Unit 02030105, at bridge on South Main Street, 1.8 mi northeast of Manalapan, 1.8 mi southwest of Englishtown, and 5.6 mi southeast of Jamesburg.	16.0	1979-87	7-23-87 9-24-87	12 15

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River Basin--Continued				
01406000	Deep Run near Browntown, NJ	Lat 40°22'30", long 74°18'14", Middlesex County, Hydrologic Unit 02030105, upstream from highway bridge, 0.7 mi downstream from the Middlesex-Monmouth County line, and 1.8 mi south of Browntown.	8.07	1933-40‡, 1982, 1984-87	7-23-87 9-24-87	4.3 5.1
		Matawan Creek Basin				
01407012	Gravelly Brook, at Church Street at Matawan, NJ	Lat 40°4'27", long 74°05'18", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Road, 0.5 mi east of intersection of State Routes 34 and 79, and 0.9 mi upstream of the mouth.	2.36	1987	10-22-86 7-24-87 9-24-87	1.4 2.1 1.9
01407026	Wilkson Creek, at Church Street, at Matawan, NJ	Lat 40°24'24", long 74°14'18", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Street, 0.7 mi east of Matawan, 2.2 mi southeast of Keyport and 2.6 mi upstream of mouth.	1.37	1987	10-22-86 7-24-87 9-24-87	1.8 1.7 1.6
		Waackaack Creek Basin				
01407070	Waackaack Creek, at Middle Road near Keansburg, NJ	Lat 40°25'23", long 74°08'12", Monmouth County, Hydrologic Unit 02030104, at bridge on Middle Road at Community of Philips Mills, 1.4 mi south of Keansburg and 3.1 mi upstream from mouth.	4.3	1987	10-22-86 7-24-87 9-24-87	2.0 3.3 4.2
		Compton Creek Basin				
01407102	Town Brook, at Church Street, at New Monmouth, NJ	Lat 40°24'52", long 74°06'00", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Street, at New Monmouth, 0.2 mi upstream of mouth and 1.1 mi south of Port Monmouth.	3.35	1987	10-22-86 7-24-87 9-24-87	1.2 1.8 2.6
		Navesink Creek Basin				
01407532	Poricy Brook at Red Bank, NJ	Lat 40°21'25", long 74°05'18" Monmouth County, Hydrologic Unit 02030104, at bridge on Navesink River Road, 200 ft downstream of Poricy Pond, 0.4 mi upstream of mouth and 1.0 mi northwest of Red Bank.	2.5	1987	10-22-86 7-24-87 9-25-87	1.0 1.5 1.5
		East Creek basin				
01407055	East Creek at North Centerville, NJ	Lat 40°25'32", long 74°09'58", Monmouth County, Hydrologic Unit 02030104, at bridge on Middle Road, 0.2 mi west of intersection of Union Road and Middle Road at North Centerville, 2.0 mi upstream from mouth.	2.56	1969, 1986-87	10-22-86 7-24-87 9-24-87	1.1 1.1 1.3
		Absecon Creek basin				
01410215	Clarks Mill Stream at Port Republic, NJ	Lat 39°30'23", long 74°30'21", Atlantic County, Hydrologic Unit 02040301, at bridge on State Route 575, 0.5 mi upstream of Mill Pond and 1.0 mi east of Port Republic.	8.61	1986-87	7-23-87 9-24-87	6.6 5.4
01410225	Morses Mill Stream at Port Republic, NJ	Lat 39°30'48", long 74°30'30", Atlantic County, Hydrologic Unit 02040301, at bridge on State Alternate Route 561 (Moss Mill Road), 0.6 mi upstream of Mill Pond and 1.2 mi southwest of Port Republic.	8.25	1986-87	7-23-87 9-24-87	8.9 3.6

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Great Egg Harbor River basin				
01410784	Great Egg Harbor River near Sicklerville, NJ	Lat 39°44'02", long 74°57'05", Camden County, Hydrologic Unit 02040302, at bridge on Williamstown-New Freedom Road, 1.5 mi northeast of Sicklerville and 3.2 mi upstream from Fourmile Branch.	15.1	1971-81, 1985-87	7-29-87	4.5
01411250	English Creek near Scullville, NJ	Lat 39°22'07", long 74°39'46", Atlantic Coutny, Hydrologic Unit 02040302, at bridge on School House Road, 1.8 mi upstream from State Route 559, at the community of English Creek, and 2.5 mi northwest of Scullville.	3.80	1986-87	7-23-87 9-24-87	4.6 3.4
		Patcong Creek basin				
01411305	Mill Branch near Northfield, NJ	Lat 39°23'23", long 74°35'37", Atlantic County, Hydrologic Unit 02040302, at bridge on County Route 684 (Spruce Rd), 0.4 mi downstream of Cedar Branch, 1.1 mi south of Cardiff and 4.5 mi northwest of Northfield.	7.47	1986-87	7-23-87 9-24-87	7.5 7.2

* Also a crest-stage partial-record station.
a Not previously published.
b Operated as a continuous-record gaging station by Duhernal Water Company. Recorder charts on file in U.S. Geological Survey, West Trenton Office.
‡ Operated as a continuous-record gaging station.
c Revised.

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*).

Discharge measurements made at miscellaneous sites during water year 1987

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Hudson River basin				
01367770 Wallkill River	Roudout Creek	Lat 40°11'38", long 74°34'32" Sussex County, Hydrologic Unit 02020007, at bridge on Glenwood Road, 0.6 mi upstream of Papakating Creek tributary, 1.7 mi southwest of Independence Corner and 2.0 mi southeast of Sussex.	60.8	1977-82, 1985	9-23-87	122
		Passaic River basin				
01378710 Penns Brook	Passaic River	Lat 40°42'40", long 74°32'24", Somerset County, Hydrologic Unit 02030103, on right bank below confluence of small tributary, 0.6 mi northeast of Basking Ridge and 0.75 mi upstream of mouth.	1.29	--	5-29-87	*.35
01379340 Passaic River	Newark Bay	Lat 40°41'22", long 74°26'24", Union County, Hydrologic Unit 02030103, at bridge on Snyder Avenue, 1.2 mi downstream of Springfield Avenue bridge and 2.2 mi west of New Providence.	89.5	1968	9-03-87	*60
4046420741803000 Bear Brook	Canoe Brook	Lat 40°46'42", long 74°18'03" Essex County, Hydrologic Unit 02030103, at bridge on East Cedar Street, 1.3 mi northeast of Northfield and 1.5 mi upstream of mouth.	0.92	--	5-28-87	*.34
404632074182800 Bear Brook	Canoe Brook Brook	Lat 40°46'42", long 74°18'28" Essex County, Hydrologic Unit 02030103, at bridge on Sycamore Avenue, 0.9 mi east of Northfield and 1.0 mi upstream of mouth.	1.11	--	5-28-87	*.37
404618074185800 Bear Brook	Canoe Brook	Lat 40°46'18", long 74°18'58", Essex County, Hydrologic Unit 02030103, downstream of confluence with Cub Brook, and 1.6 mi south of Livingston, 0.5 mi upstream of mouth. Livingston.	2.12	--	5-28-87	0.60
404608074192100 Canoe Brook	Passaic River	Lat 40°46'08", long 74°19'21", Essex County, Hydrologic Unit 02030103, upstream of confluence with Bear Brook, 0.2 mi upstream of bridge on Hobart Gap Road and 2.0 mi south of Livingston.	6.60	--	5-28-87	0.49
404602074192400 Canoe Brook	Passaic River	Lat 40°46'02", long 74°19'24", Essex County, Hydrologic Unit 02030103, at bridge on Hobart Gap Road, 0.3 mi upstream from unnamed pond and 2.0 mi south of Livingston.	4.13	--	5-28-87	1.02
01379530 Canoe Brook	Passaic River	Lat 40°45'21", long 74°21'43", Essex County, Hydrologic Unit 02030103, just downstream of Commonwealth Water Company pumping station, 0.5 mi upstream of mouth, and 2.0 mi north of Summit.	11.0	1933-60ac, 1961-86bc	11-10-86 12-30-86 1-07-87 2-03-87 3-16-87 5-05-87 6-12-87 7-14-87 9-04-87	0 0 0 22 0 0 .22 0 0
01379650 Rockaway River	Passaic River	Lat 40°59'38", long 74°31'24", Morris County, Hydrologic Unit 02030103, in Woodstock, 650 ft downstream of Oak Ridge Lake dam, 0.3 mi upstream of Longwood Lake and 2.0 mi south of Petersburg.	17.5	1986	9-08-87	22

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Passaic River basin--Continued				
01379660 Rockaway River	Passaic River	Lat 40°58'37", long 74°32'50" Morris County, Hydrologic Unit 02030103, 300 ft downstream of wooden bridge, 600 ft downstream of Longwood Lake and 1.6 mi southwest of Woodstock.	7.16	--	9-08-87	20
01379808 Rockaway River	Passaic River	Lat 40°53'17", long 74°34'09", Morris County, Hydrologic Unit 02030103, 0.2 mi upstream from Jackson Brook, 1.0 mi downstream of Green Pond Brook, and 2.1 mi east of Roxbury.	47.1	1983-86	7-21-87	36
01379865 Mill Brook	Rockaway River	Lat 40°52'04", long 74°32'43" Morris County, Hydrologic Unit 02030103, at bridge on Mountainside Drive, 1.3 mi southeast of Dover and 1.8 mi upstream of mouth.	3.5	--	9-24-87	5.4
01379870 Mill Brook	Rockaway River	Lat 40°52'39", long 74°31'31", Morris County, Hydrologic Unit 02030103, at mouth, 600 ft downstream of bridge on Palmer Road, 0.4 mi downstream of bridge at Dover-Rockaway Road and 1.7 mi southeast of Dover.	4.84	1985-86	9-24-87	*8.0
01380000 Beaver Brook	Rockaway River	Lat 40°57'38", long 74°27'43", Morris County, Hydrologic Unit 02030103, 50 ft below sluice gates at outlet of Splitrock Reservoir, 2 mi northeast of Hibernia, and 3.5 mi upstream of mouth of Hibernia Brook.	5.50	1925-46ac, 1976-86bc	11-06-86 12-21-86 2-02-87 3-06-87 4-13-87 6-01-87 7-07-87 9-02-87	*3.7 *19 7.8 *15 *25 *2.2 *2.6 *2.1
01380010 Beaver Brook	Rockaway River	Lat 40°56'49", long 74°27'38", Morris County, Hydrologic Unit 02030103, at bridge on Meriden-Lyonsville Road, 700 ft west of Meriden Road, 1.3 mi downstream of Splitrock Reservoir and 1.3 mi southwest of Lyonsville.	6.80	1985-86	9-24-87	*11
01380011 Beaver Brook	Rockaway River	Lat 40°56'44", long 74°27'37" Morris County, Hydrologic Unit 02030103, 600 ft downstream of bridge on Meriden-Lyonsville Road, 1.4 mi downstream of Splitrock Reservoir and 1.4 mi southwest of Lyonsville.	7.0	--	9-24-87	*8.4
01389802 Passaic River	Newark Bay	Lat 40°54'57", long 74°10'55", Passaic County, Hydrologic Unit 02030103, on right bank, 10 ft upstream from Passaic Falls in Paterson and 1.5 mi downstream from Peckman River.	779	--	12-16-86 2-24-87 6-18-87 7-09-87 8-18-87 @ 0900 8-18-87 @ 1000 8-19-87 @ 0830 8-19-87 @ 1257 8-20-87 9-28-87	1,110 637 216 740 162 144 61.0 92.2 64.2 76.2
01389882 Dundee Canal	Passaic River	Lat 40°52'45", long 74°07'21", Passaic County, Hydrologic Unit 02030103, at bridge on Ackerman Avenue at Clifton, 0.4 mi downstream from Dundee Dam and 1.2 mi upstream from Passaic Street Bridge.	--	1986	2-25-87 4-10-87 5-21-87 7-07-87 8-17-87	1.6 5.8 0 0 3.0
01389895 Passaic River	Newark Bay	Lat 40°52'45", long 74°07'14", Bergen County, Hydrologic Unit 02030103, at bridge on Outwater Lane at Garfield, 0.4 mi downstream from Dundee Dam and 1.2 mi upstream from bridge on Passaic Street.	806	1970-71 1986	10-29-86 2-10-87 4-10-87 5-21-87 7-07-87 8-17-87	104 1,220 6,920 505 *270 *328

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
01391200 Saddle River	Passaic River	Lat 40°56'30", long 74°05'36", Bergen County, Hydrologic Unit 02030103, at bridge on Century Road, at Fair Lawn, and 0.8 mi downstream of Hohokus Brook.	45.2	1978, 1981, 1983, 1986	8-19-87	*34
		Rahway River basin				
01393950 West Branch Rahway River	Rahway River	Lat 40°47'02", long 74°16'27", Essex County, Hydrologic Unit 02030104, at bridge on Indian Avenue, at West Orange, 1.1 mi downstream from bridge at Interstate 280 and 1.25 mi upstream from Orange Reservoir.	2.52	1983, 1985	e9-25-86	.43
		Raritan River basin				
01396535 South Branch Raritan River	Raritan River	Lat 40°39'49", long 74°53'52", Unterdon County, Hydrologic Unit 02030105, at bridge on Arch Street in High Bridge, 0.9 mi northeast of Mariannes Corner and 4.3 mi northeast of Norton.	68.8	1978-81, 1983, 1985-86	6-03-87	87
01396588 Spruce Run	South Branch Raritan River	Lat 40°40'41", long 74°55'06", Hunterdon County, Hydrologic Unit 02030105, 800 ft downstream of Rocky Run, 0.3 mi upstream of bridge on Van Syckel Road and 1.6 mi southeast of Glen Gardner.	15.5	1979, 1981-83, 1985-86	8-18-87	*5.8
01397400 South Branch	Raritan River	Lat 40°31'01", long 74°48'10", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 1.4 mi downstream from Bushkill Brook, and 3.0 mi northeast of Flemington.	181	1976 1978-81, 1983, 1985-86	8-19-87	*103
01399120 North Branch Raritan River	Raritan River	Lat 40°38'09", long 74°40'56" Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road, 0.1 mi upstream from Lamington River, 0.3 mi east of Burnt Mills, and 4.0 mi southwest of Far Hills.	63.8	1964 1975-78, 1981-83, 1985-86	e5-30-86 8-19-87	47 *29.3
01399780 Lamington River	North Branch Raritan River	Lat 40°38'09", long 74°41'13", Somerset County, Hydrologic Unit 02030105, at bridge on Walsh Road at Burnt Mills, 0.2 mi upstream from North Branch Raritan River, and 4.4 mi southwest of Far Hills.	100	1964, 1973, 1975-78, 1981-83, 1985-86	e5-30-86 8-19-87	62 *54
01400120 Raritan River	Raritan Bay	Lat 40°33'42", long 74°38'10", Somerset County, Hydrologic Unit 02030105, at bridge on South Branch Raritan Road in Raritan, and 3.5 mi northeast of South Branch.	--	1975-81 1983, 1985-86	e9-17-86 8-19-87	381 *231
01400583 Millstone River	Raritan River	Lat 40°17'36", long 74°31'39", Mercer County, Hydrologic Unit, 02030105, at bridge on Old Cranberry Road, 1.0 mi upstream of Rocky Brook tributary and 1.6 mi north of Hightstown.	20.7	--	6-04-87 7-02-87 7-10-87 7-13-87	12 139 55 214
01400589 Rocky Brook	Millstone River	Lat 40°15'11", long 74°29'16", Mercer County, Hydrologic Unit, 02030105, at bridge on Disbrow Hill Road, 0.5 mi upstream from Timber Run tributary and 2.2 mi east of Hightstown.	7.14	--	7-02-87 7-03-87 7-13-87 8-10-87 @ 1010 8-10-87 @ 1515	8.5 85 126 226 295
01400591 Rocky Brook	Millstone River	Lat 40°15'10", long 74°30'11", Mercer County, Hydrologic Unit, 02030105, at bridge on Milford Road, at outlet of Etra Lake, 1.2 mi upstream of Peddie Lake and 1.6 mi southeast of Hightstown.	9.08	--	7-02-87 7-03-87 7-13-87 8-10-87	17 76 143 263

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400599 Rocky Brook	Millstone River	Lat 40°16'37", long 74°32'06", Mercer County, Hydrologic Unit 02030105, at bridge on U.S. Route 130 at Hightstown and 0.4 mi northeast of intersection of U.S. Route 130 and County Route 571.	14.4	1971-72	7-02-87 7-03-87 7-13-87 8-10-87	78 139 144 309
01400725 Cranbury Brook	Millstone River	Lat 40°19'34", long 74°36'11", Middlesex County, Hydrologic Unit 02030105, at bridge on Maple Avenue at outlet of Plainsboro Pond in Plainsboro and 0.70 mi upstream of mouth.	22.1	1967 1971-72	7-02-87 7-10-87	10 34
01400870 Stony Brook Tributary No. 3	Stony Brook	Lat 40°24'12", long 74°48'07" Mercer County, Hydrologic Unit 02030105, at bridge on Van Dyke Road, 0.2 mi east of Stony Brook Road and 2.0 mi northwest of Hopewell.	1.0	1970	8-14-87	.25
01400880 Stony Brook	Millstone River	Lat 40°22'53", long 74°48'11", Mercer County, Hydrologic Unit 02030105, downstream of unnamed tributary, 0.8 mi and 1.4 mi east of Woodsville.	2.12	1985-86	8-14-87	*.73
01400907 Stony Brook Branch	Stony Brook	Lat 40°21'33", long 74°47'56", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 31, and 2.2 mi north of Pennington 1.0 mi upstream of mouth.	7.07	--	8-13-87	*.44
01400910 Stony Brook Branch	Stony Brook	Lat 40°21'07", long 74°47'04", Mercer County, Hydrologic Unit 02030105, 1,000 ft upstream from Titus Mill Road, at mouth of Pennington and 1.8 mi east of State Route 31.	1.46	1985-86	8-14-87	*.23
01400920 Stony Brook	Millstone River	Lat 40°20'21", long 74°46'42", Mercer County, Hydrologic Unit 02030105, 250 ft upstream from confluence with Baldwin Creek in, Hopewell Township, and 1.1 mi northwest of intersection of East Delaware Avenue and Main Street in Pennington Borough.	23.5	1963, 1971-72, 1985-86	8-14-87	*2.8
01400923 Baldwin Creek	Stony Brook	Lat 40°20'26", long 74°48'38", Mercer County, Hydrologic Unit 02030105, at bridge on unimproved road, 0.1 mi north of Yard Road, 0.2 mi upstream of unnamed tributary and 1.3 mi northwest of Pennington.	.58	1985-86	8-13-87	*.04
01400925 Baldwin Creek	Stony Brook	Lat 40°21'21", long 74°48'07", Mercer County, Hydrologic Unit 02030105, at bridge on Yard Road, 200 ft upstream of unnamed tributary, 0.3 mi west of route 31 and 1.0 north of Pennington.	1.07	1985-86	8-13-87	*.62
01400927 Baldwin Creek tributary	Baldwin Creek	Lat 40°20'15", long 74°47'56", Mercer County, Hydrologic Unit 02030105, 450 ft upstream of bridge on State Route 31, 0.2 mi south of Yard Road, 0.4 mi north of Pleasant Valley Road and 0.8 mi from Pennington.	.43	1985-86	8-13-87	*.20
01400932 Baldwin Creek	Stony Creek	Lat 40°20'26", long 74°46'48", Mercer County, Hydrologic Unit 02030105, just downstream from earthfill dam, 1,000 ft upstream from mouth, and 1.1 mi northeast of Pennington.	2.52	1962-70c, 1985-86	8-14-87	*.86

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400936 Lewis Brook	Stony Brook	Lat 40°19'53", long 74°47'32", Mercer County, Hydrologic Unit 02030105, at bridge on North Main Street, 0.2 mi north of Delaware Avenue at Brookside Avenue, one street south of Franklin Avenue at Pennington and 0.6 mi upstream of mouth.	0.32	1985-86	8-13-87	*.22
01400938 Lewis Brook	Stony Brook	Lat 40°20'02", long 74°46'58", Mercer County, Hydrologic Unit 02030105, 200 ft upstream from mouth, 0.3 mi northeast of intersection of King George and Mount Rose Road in Pennington.	.53	1971-72, 1985-86	8-13-87	*.35
01400939 Lewis Brook tributary	Lewis Brook	Lat 40°20'00", long 74°46'57", Mercer County, Hydrologic Unit 02030105, 100 ft upstream from mouth and 0.3 mi northeast of intersection of King George Road and Mount Rose Road in Pennington.	.08	1971-72, 1985-86	8-13-87	*.02
01400940 Stony Brook	Millstone River	Lat 40°19'55", long 74°46'39", Mercer County, Hydrologic Unit 02030105, at bridge on Mt. Rose Road (Pennington-Rocky Hill Road), 100 ft east of King George Road, 100 ft upstream of unnamed tributary and 1.2 mi east of Pennington.	25.1	1985-86	8-14-87	*3.8
01400941 Stony Brook tributary No. 4	Stony Brook	Lat 40°19'52", long 74°46'42", Mercer County, Hydrologic Unit 02030105, 100 ft upstream from mouth near Mount Rose Road at Pennington, 0.2 mi downstream from Federal City Road.	.32	1971-72, 1985-86	8-13-87	*.10
01400942 Stony Brook tributary No. 5	Stony Brook	Lat 40°18'49", long 74°47'09", Mercer County, Hydrologic Unit 02030105, at bridge on Pennington-Lawrenceville Road at Baldwins Corner, 1.0 mi south of Pennington and 1.5 mi upstream from mouth	.81	1985-86	8-13-87	*.23
01400944 Stony Brook tributary No. 5	Stony Brook	Lat 40°19'14", long 74°46'45", Mercer County, Hydrologic Unit 02030105, at north end of Oak Street, 400 ft upstream of unnamed lake and 0.75 mi south of Pennington.	0.17	1985-86	8-13-87	*.11
01400945 Stony Brook tributary No. 5	Stony Brook	Lat 40°19'43", long 74°46'12", Mercer County, Hydrologic Unit 02030105, at bridge on Federal City Road, east of Pennington, and 0.1 mi upstream from mouth.	1.62	1985-86	8-13-87	*.51
01400950 Hart Brook	Stony Brook	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, at culvert on Federal City Road, 1.0 mi upstream from mouth and 1.7 mi southeast of Pennington.	0.57	1985-86	4-04-87 8-14-87	52 *.05
01400951 Hart Brook	Stony Brook	Lat 40°19'52", long 74°45'23", Mercer County, Hydrologic Unit 02030105, 0.2 mi upstream from Stony Brook, 0.6 mi downstream from Blackwells Road, 1.9 mi east of Pennington, and 1.9 mi southwest of Rosedale.	1.25	1965, 1985-86	8-14-87	*.15

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400952 Stony Brook tributary No. 2	Stony Brook	Lat 40°20'08", long 74°44'48", Mercer County, Hydrologic Unit 02030105, 0.3 mi upstream of Honey Branch, 1.3 mi west of Rosedale, and 2.4 mi east of Pennington.	0.49	1965, 1985-86	8-14-87	*.04
01400953 Honey Branch	Stony Brook	Lat 40°21'27", long 74°45'58", Mercer County, Hydrologic Unit 02030105, at bridge on Wargo Road, 0.5 mi upstream of Pennington-Rocky Hill Road and 8 mi north of Centerville.	0.70	1985-86	8-13-87	*.02
01400960 Honey Branch	Stony Brook	Lat 40°21'17", long 74°45'29", Mercer County, Hydrologic Unit 02030105, at bridge on Mount Rose Road, 0.6 mi northeast of Centerville, 1.4 mi southeast of Mount Rose and 2.5 mi northeast of Pennington.	1.28	1985-86	8-13-87	*.18
01400962 Honey Branch tributary	Honey Branch	Lat 40°21'22", long 74°45'22", Mercer County, Hydrologic Unit 02030105, at bridge on Bayberry Road (formerly Van Kirk Road) 0.1 above mouth, and 2.7 mi northeast of Pennington.	0.58	1965, 1968-69, 1985-86	8-13-87	*.19
01400974 Stony Brook	Millstone River	Lat 40°20'35", long 74°43'33", Mercer County, Hydrologic Unit 02030105, at bridge on Carter Road in Rosedale, 1.2 mi downstream from Honey Branch.	34.2	1965, 1971-72 1985-86	8-14-87	*5.6
01400978 Cleveland Brook	Stony Brook	Lat 40°21'24", long 74°45'51", Mercer County, Hydrologic Unit 02030105, 800 ft upstream from Cleveland Brook Road, 1.4 mi north of Rosedale and 1.8 mi upstream of mouth	0.41	1985-86	8-13-87	*.09
01400985 Stony Brook	Millstone River	Lat 40°21'09", long 74°42'39", Mercer County, Hydrologic Unit 02030105, at bridge on Province Line Road, 0.65 mi downstream of Cleveland Brook and 1.2 mi northeast of Rosedale.	36.2	1985-86	8-13-87	*7.4
01400990 Palmer Lake outlet stream	Stony Brook	Lat 40°21'16", long 74°41'52", Mercer County, Hydrologic Unit 02030105, at bridge on Elm Road at Princeton, 0.6 mi downstream of Palmer Lake and 0.6 mi upstream of mouth.	15.4	--	8-13-87	*.20
01400998 Stony Brook tributary No. 6	Stony Brook	Lat 40°20'03", long 74°41'52", Mercer County, Hydrologic Unit 02030105, at bridge on private estate, 0.6 mi north of Coxs Corner and 1.8 mi southwest of Princeton, 300 ft upstream of mouth.	9.74	--	8-13-87	*.22
01401510 Beden Brook	Millstone River	Lat 40°23'12", long, 74°46'00", Mercer County, Hydrologic Unit 02030105, at bridge on Louellen Avenue at Hopewell, 400 ft west of W. Broad Street and 1.1 mi upstream from Hopewell-Princeton Road (State Route 569).	0.55	1985	8-14-87	*.04
01401513 Beden Brook	Millstone River	Lat 40°23'02", long 74°44'42", Somerset County, Hydrologic Unit 02030105, 1,200 ft upstream from Aunt Molly Road, 0.9 mi southeast of Hopewell, and 2.8 mi southwest of Blawenburg.	--	1965, 1985	8-14-87	*.28

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01401515 Beden Brook tributary	Beden Brook	Lat 40°23'58", long 74°45'16", Mercer County, Hydrologic Unit 02030105, at bridge on dead end road, 0.1 mi west of Hopewell-Amwell Road, 0.85 mi northeast of Hopewell and 1.4 mi upstream of mouth.	--	1985	8-14-87	*.42
01401517 Beden Brook	Beden Brook	Lat 40°23'02", long 74°44'38", Somerset County, Hydrologic Unit 02030105, at left bank, 900 ft upstream from Aunt Molly Road, 1.0 mi southeast of Hopewell, and 2.7 mi southwest of Blawenburg.	4.3	1965, 1985	8-14-87	*.76
01401518 Beden Brook tributary No. 2	Beden Brook	Lat 40°23'01", long 74°44'32" Somerset County, Hydrologic Unit 02030105, at right bank, 200 ft upstream from Aunt Molly Road, 1.0 mi southeast of Hopewell, and 2.6 mi southwest of Blawenburg.		1965, 1985	8-14-87	*.03
01401525 Beden Brook	Millstone River	Lat 40°23'25", long 74°43'52", Mercer County, Hydrologic Unit 02030105, at bridge on Province Line Road, 900 ft upstream of unnamed tributary and 0.6 mi south of Stoutsburg.	7.84	1985	8-14-87	*1.7
01401530 Beden Brook	Millstone River	Lat 40°23'40", long 74°42'05", Somerset County, Hydrologic Unit 02030105, at bridge on Great Road, 0.9 mi south of Blawenburg and 2.4 mi upstream of Rock Brook.	11.8	--	8-13-87	*4.1
01401535 Beden Brook	Millstone River	Lat 40°24'20", long 74°40'44", Somerset County, Hydrologic Unit 02030105, at bridge on County Route 518 (Georgetown-Franklin Turnpike), 0.5 mi upstream of Rock Brook and 1.3 mi east of Blawenburg.	15.3	--	8-13-87	*5.5
01401540 Rock Brook	Beden Brook	Lat 40°26'44", long 74°44'52", Somerset County, Hydrologic Unit 02030105, at bridge on Montgomery Road, 0.3 mi north of Amwell, 0.5 mi upstream of mouth and 4.2 mi north of Hopewell.	3.84	--	8-13-87	*3.8
01402540 Millstone River	Raritan River	Lat 40°31'47", long 74°35'19", Somerset County, Hydrologic Unit 02030105, at bridge on Wilhouski Street in Weston, 0.8 mi southwest of Alma White College, and 1.9 mi north of Millstone.	271	1979-81, 1985-86	8-25-87	*85
01403200 Middle Brook	Raritan River	Lat 40°33'38", long 74°32'56", Middlesex County, Hydrologic Unit 02030105, at bridge on Lincoln Boulevard (old State Route 28), at Bound Brook, 0.5 mi above mouth.	17.2	1955, 1975, 1982-83, 1985-86	1-12-87	38
01405302 Matchaponix Brook	South River	Lat 40°23'22", long 74°22'55", Middlesex County, Hydrologic Unit 02030105, at bridge on Mundy Avenue in Spotswood, 0.2 mi upstream from mouth, 0.5 mi east of DeVoe Lake Dam and 3.4 mi southeast of Tanners Corners.	44.1	1980, 1982, 1986	e5-15-86	*28
01405340 Manalapan Brook	South River	Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.0 mi west of Englishtown, 2.6 mi north of Manalapan, and 3.0 mi downstream from Still House Brook.	20.9	1979-81, 1986	e5-15-86 8-26-87	*18 *12

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Manasquan River basin				
01405435 Cedar Brook	Manalapan Brook	Lat 40°23'26", long 74°23'31" Middlesex County, Hydrologic Unit 02030105, 50 ft upstream from mouth in Spotswood and 4.3 mi south of South River.	3.85	1943, 1949-50, 1957-86f,	10-01-86 11-18-86 1-07-87	*2.7 *3.7 *7.9
01407997 Marsh Bog Brook	Manasquan River	Lat 40°10'01", long 74°09'33", Monmouth County, Hydrologic Unit 02040301, at bridge on Yellow Brook Road at Squankum, 0.2 mi upstream from mouth.	4.91	1966, 1972-74, 1978-82, 1985-86	8-26-87	*.92
		Mullica River basin				
01409387 Mullica River	Great Bay	Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 02040301, at bridge on U.S. Route 206 in Atsion, at outlet of Atsion Lake and 0.2 mi upstream from Wesickman Creek.	26.7	1980-81, 1985-86	8-19-87	*19
01409416 Hammonton Creek	Mullica River	Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road, 0.4 mi south of Wescoatville and 1.6 mi upstream from Norton Branch.	9.57	1974 1978-81, 1983, 1985-86	8-19-87	*7.7
01410500 Absecon Creek	Absecon Bay	Lat 39°25'45", long 74°31'16", Atlantic County, Hydrologic Unit 02040302, on right bank 30 ft downstream from Doughty Pond Dam of Atlantic City Water Department, 1.0 mi west of Absecon and 3.4 mi upstream from mouth.	16.6	1923-29c 1933-38c 1946-85cg 1986g	7-23-87 9-24-87	9.0 6.8
		Great Egg Harbor River basin				
01410820 Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°40'09", long 74°54'49", Camden County, Hydrologic Unit 02040302, at bridge on Broad Lane Road, 2.1 mi downstream from confluence of Fourmile Branch and 1.9 mi southwest of Blue Anchor.	37.2	1972-80c, 1985-86	7-29-87	*21
01411110 Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream from Deep Run and 20.9 mi upstream from mouth.	154	1978-81 1985-86	8-04-87	116

a Discharge records published in reports of the New Jersey Department of Environmental Protection.
b Discharge records on file in U.S. Geological Survey Office, West Trenton, New Jersey.
c Operated as continuous-recording gaging station.
d Estimated.
e Not previously published.
f Operated as continuous gaging station by Duhernal Water Company.
g Also a tidal crest-stage partial-record station.

The following table contains annual maximum elevations for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above National Geodetic Vertical Datum of 1929 unless otherwise noted. Only the maximum elevation is given. Information on some other high elevations may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum elevation has been determined.

Annual maximum elevation at tidal crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Period of record	Annual Maximum	
				Date	Elevation NGVD* (ft)
01406700	Raritan River at Perth Amboy, NJ	Lat 40°30'31", long 74°17'30", Middlesex County, Hydrologic Unit 02030104, on downstream left bank, 20 ft downstream of Victory Bridge on State Route 35 in Perth Amboy, 0.5 mi downstream from Garden State Parkway bridge, and 1.5 mi upstream from mouth of Raritan River.	1967-70‡, 1980-87	1-02-87	7.20
01407030	Luppatatong Creek at Keyport, NJ	Lat 40°26'08", long 74°12'27", Monmouth County, Hydrologic Unit 02030104, on left bank upstream side of Front Street bridge in Keyport, 0.1 mi upstream from mouth, and 2.0 mi northwest of Matawan.	1980-87	1-02-87	7.30
01409145	Manahawkin Bay near Manahawkin, NJ	Lat 39°40'13", long 74°12'54", Ocean County, Hydrologic Unit 02040301, at west end of State Route 72 bridge over Manahawkin Bay, 2.5 mi northwest of Ship Bottom, and 3.1 mi southeast of Manahawkin.	1965-87	1-02-87	4.24
01409285	Little Egg Harbor at Beach Haven, NJ	Lat 39°33'10", long 74°15'07", Ocean County, Hydrologic Unit 02040301, in Beach Haven at U.S. Coast Guard station, 6.0 mi southeast of Tuckerton and 7.4 mi southeast of Ship Bottom.	1979-87	1-02-87	5.31
01409510	Batsto River at Pleasant Mills, NJ	Lat 39°37'55", long 74°38'40", Ocean County, Hydrologic Unit 02040301, on right bank, 0.5 mi upstream from mouth, and 1.0 mi southeast of Pleasant Mills.	1958-87‡	1-02-87	4.71
01410100	Mullica River near Port Republic, NJ	Lat 39°33'12", long 74°27'46", Atlantic County, Hydrologic Unit 02040301, on right bank on bulkhead piling at south end of U.S. Route 9 and Garden State Parkway bridge over Mullica River, 2.8 mi northeast of Port Republic, and 2.8 mi south of New Gretna.	1965-87	1-02-87	5.00
01410500	Absecon Creek at Absecon, NJ	Lat 39°25'45", long 74°31'16", Atlantic County, Hydrologic Unit 02040302, on right bank 30 ft downstream from Doughty Pond Dam of Atlantic City Water Department, 1 mi west of Absecon, and 3.4 mi upstream from mouth.	1923-29‡, 1933-38‡, 1946-84‡ 1985-87	1-02-87	5.78
01410570	Beach Thorofare at Atlantic City, NJ	Lat 39°21'56", long 74°26'44", Atlantic County, Hydrologic Unit 02040302, on west abutment south side of Pennsylvania-Reading Seashore Lines railroad swivel bridge in Atlantic City, 0.5 mi northeast of Bader Field airport, and 2.7 mi northeast of Ventnor City.	1978‡, 1969-87	1-02-87	6.35

Annual maximum elevation at tidal crest-stage partial-record stations during water year 1987--Continued

Station No.	Station name	Location	Period of record	Annual Maximum Date	Annual Maximum Elevation NGVD* (ft)
01411300	Tuckahoe River at Head of River, NJ	Lat 39°18'25", long 74°49'15", Cape May County, Hydrologic Unit 02040302, on right bank at highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.	1979-87‡	1-02-87	4.89
01411320	Great Egg Harbor Bay at Ocean City, NJ	Lat 39°17'03", long 74°34'41", Cape May County, Hydrologic Unit 02040302, on bulkhead at west end of 7th Street (prior to October 1974, gage was located at Fifth Street), Ocean City, and 2.5 mi southeast of Somers Point.	1965-87	1-02-87	6.73
01411360	Great Channel at Stone Harbor, NJ	Lat 39°03'26", long 74°45'53", Cape May County, Hydrologic Unit 02040302, on bulkhead piling at east end of bridge at west end of Borough of Stone Harbor, 3.7 mi southeast of Cape May Court House, and 3.9 mi southwest of Avalon.	1965-87	1-02-87	6.18

* National Geodetic Vertical Datum of 1929 (NGVD).
‡ Operated as a continuous-record gaging station.

ATLANTIC COUNTY

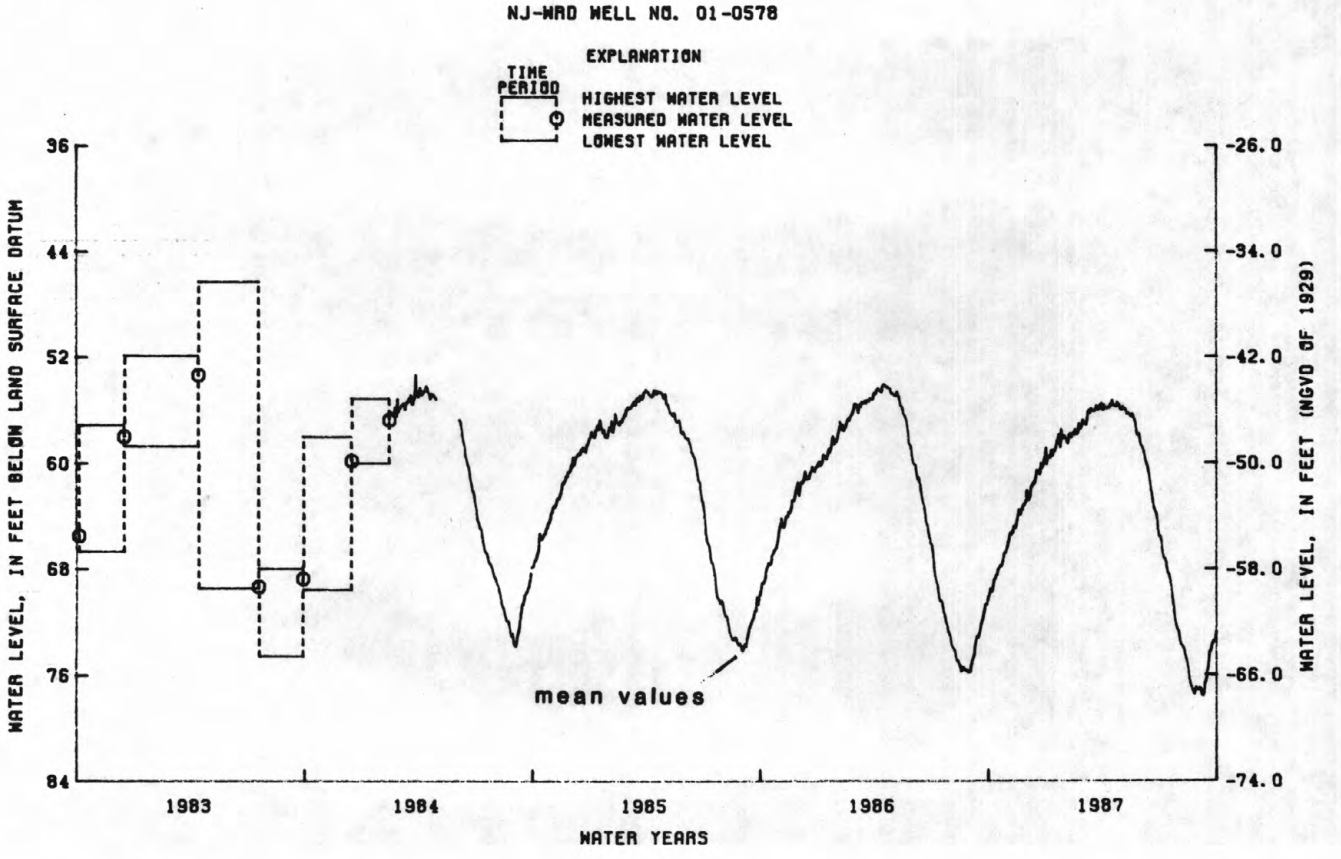
391827074371001. Local I.D., Jobs Point Obs. NJ-WRD Well Number, 01-0578.
LOCATION.--Lat 39°18'26", long 74°37'09", Hydrologic Unit 02040302, on the west side of the Garden State Parkway at interchange 29, Somers Point.
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 680 ft, screened 670 to 680 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to February 1984.
DATUM.--Land-surface datum is 10.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 9.34 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--October 1959 to June 1975, May 1977 to current year. Records for 1975 to 1980 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.10 ft below land-surface datum, Apr. 13, 1961; lowest, 78.41 ft below land-surface datum, Sept. 8, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.46	65.35	62.81	59.53	58.57	57.03	55.85	55.88	58.95	66.22	73.78	77.03
10	69.00	65.30	61.80	59.03	57.89	56.00	55.86	56.35	59.94	67.21	74.20	77.37
15	68.51	64.77	61.53	59.13	57.87	55.92	55.73	56.36	61.16	68.33	75.34	75.95
20	67.83	63.48	60.54	58.37	57.87	56.04	55.70	56.37	62.63	69.42	76.75	74.19
25	67.34	63.58	59.99	58.47	57.44	56.04	55.40	57.33	63.75	71.29	77.46	73.40
EOM	66.42	62.96	59.69	57.93	57.17	55.47	55.97	58.14	65.40	72.65	77.12	72.73
MEAN	68.33	64.44	61.23	58.81	57.78	56.20	55.74	56.63	61.46	68.82	75.51	75.45

WATER YEAR 1987 -- MEAN 63.40 HIGH 54.29 APR 16 LOW 78.41 SEP 8



ATLANTIC COUNTY

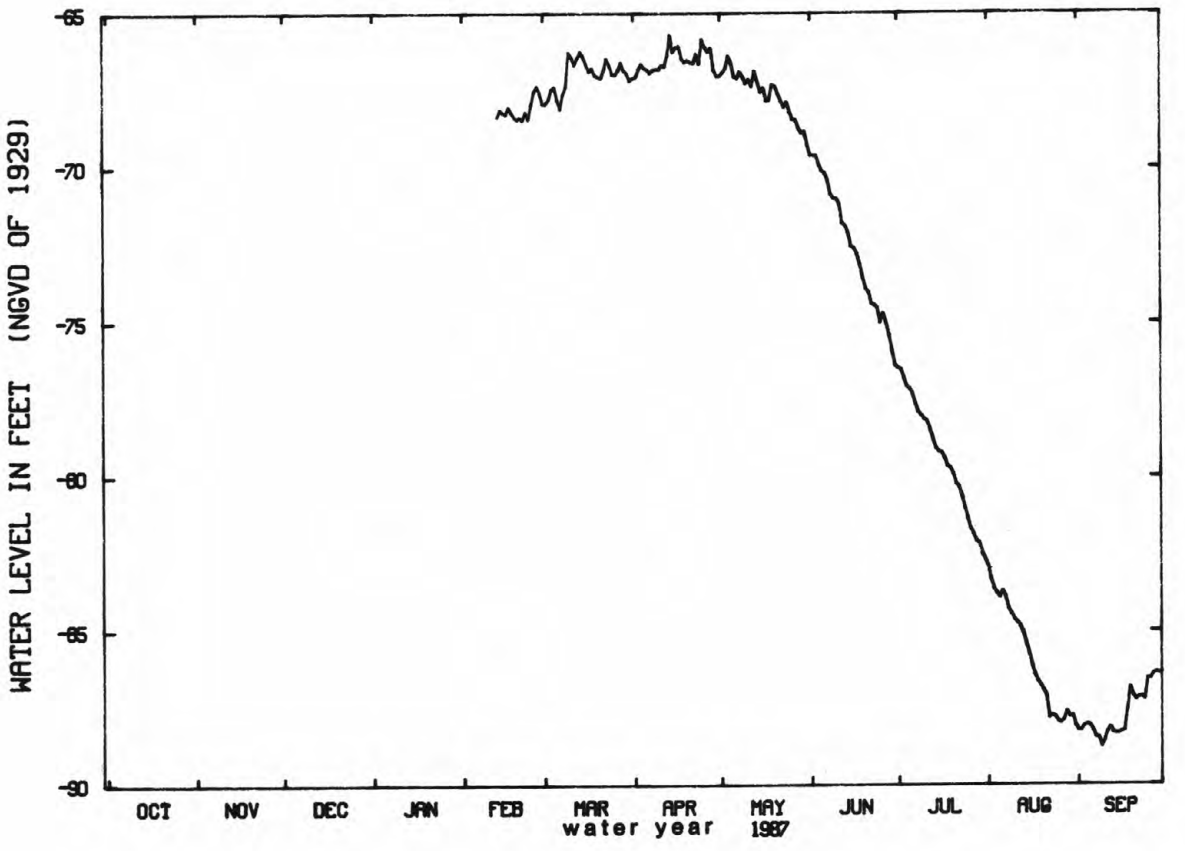
391955074250701. Local I.D., ACOW 1 Obs. NJ-WRD Well Number 01-0711.
LOCATION.--Lat 39°19'55", long 74°25'07", in the Atlantic Ocean, 1.9 miles offshore of Atlantic City
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.-- Drilled artesian observation well, diameter 4 in, depth 871 ft, screened 820 to 850 ft.
INSTRUMENTATION.--Digital data logger with differential pressure transducers and conductivity cells. Recorder located on sea floor, about 33 ft below NGVD.
DATUM.-- 0.00 ft, National Geodedic Vertical Datum of 1929.
Measuring point: Deck of drilling platform at time when transducers were set at bottom of well.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Elevation of differential pressure transducers was determined by direct measurement from the deck of the drilling platform. Elevation of the deck of the drilling platform was determined by survey by the U.S. Geological Survey, National Mapping Division. Specific conductance extremes for 1987 water year - maximum 171 us/cm, minimum 168 us/cm.
PERIOD OF RECORD.--February 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 63.72 ft below NGVD , April 14,16, 1987; lowest, 90.90 ft below NGVD, September 8, 1987.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	-67.37	-66.76	-66.60	-70.09	-77.12	-83.90	-88.07
10	---	---	---	---	---	-66.26	-66.80	-67.27	-70.97	-78.11	-84.62	-88.55
15	---	---	---	---	-68.21	-66.40	-66.24	-67.54	-72.52	-79.18	-85.70	-88.32
20	---	---	---	---	-68.44	-67.05	-66.51	-67.34	-73.89	-79.88	-86.93	-87.10
25	---	---	---	---	-67.96	-66.97	-65.81	-68.17	-74.99	-81.32	-87.94	-86.53
EOM	---	---	---	---	-67.58	-67.17	-67.03	-69.24	-76.37	-82.66	-88.07	-86.32
MEAN	---	---	---	---	-68.12	-67.01	-66.53	-67.57	-72.56	-79.37	-85.88	-87.65

WATER YEAR 1987 -- HIGH -63.72 APR 14, 16 LOW -90.90 SEP 8



ATLANTIC COUNTY

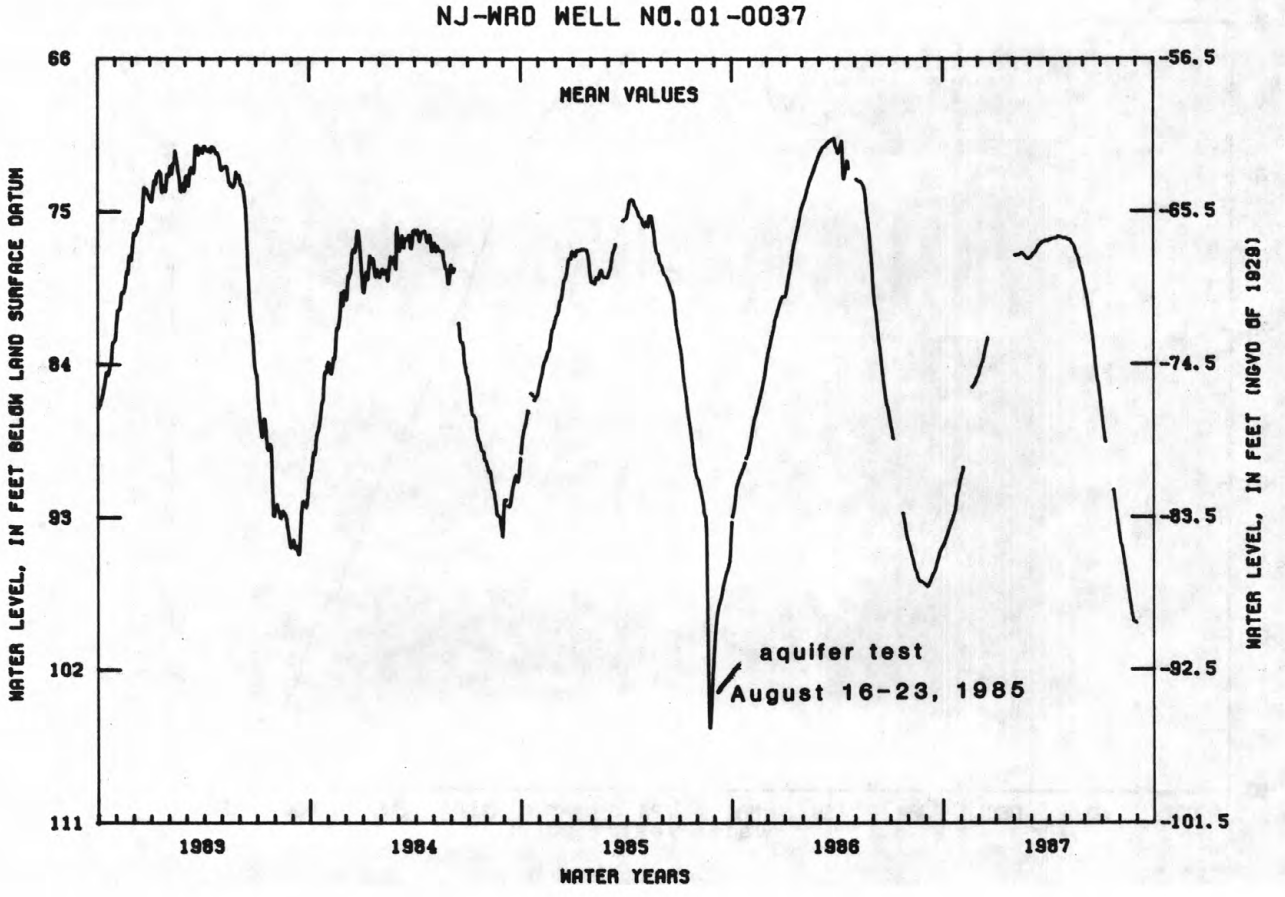
392153074250101. Local I.D., Galen Hall Obs. NJ-WRD Well Number, 01-0037.
LOCATION.--Lat 39°21'51", long 74°24'59", Hydrologic Unit 02040302, near the intersection of Pacific and Congress Avenues, Atlantic City.
Owner: Atlantic City Municipal Utilities Authority.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 837 ft, screened 782 to 837 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to July 1980.
DATUM.--Land-surface datum is 9.54 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 0.90 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Water level affected by USGS aquifer test, August 16-23, 1985. Missing record from November 5-19, December 18 to February 2 and July 10-22 was caused by recorder malfunction. Missing record from September 1-30 was due to damage by construction equipment.
PERIOD OF RECORD.--January 1949 to August 1975, May 1977 to current year. Records for 1949 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.58 ft below land-surface datum, Mar. 7, 1962; lowest, 105.70 ft below land-surface datum, Aug. 22, 1985. (see remarks)

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	94.21	---	84.08	---	77.55	77.53	76.63	76.67	79.73	87.60	94.61	---
10	93.70	---	83.52	---	77.52	77.36	76.58	76.78	80.68	---	95.44	---
15	93.22	---	82.74	---	77.45	77.04	76.55	77.04	81.98	---	96.55	---
20	92.69	85.37	---	---	77.68	76.85	76.52	77.56	83.51	---	97.77	---
25	91.57	85.09	---	---	77.78	76.77	76.57	78.09	85.01	91.90	98.92	---
EOM	90.64	84.66	---	---	77.72	76.75	76.58	78.83	86.17	93.39	99.27	---
MEAN	92.89	86.44	83.57	---	77.61	77.10	76.58	77.37	82.34	90.00	96.78	

WATER YEAR 1987 -- HIGH 76.46 APR 18 LOW 99.30 AUG 31



ATLANTIC COUNTY

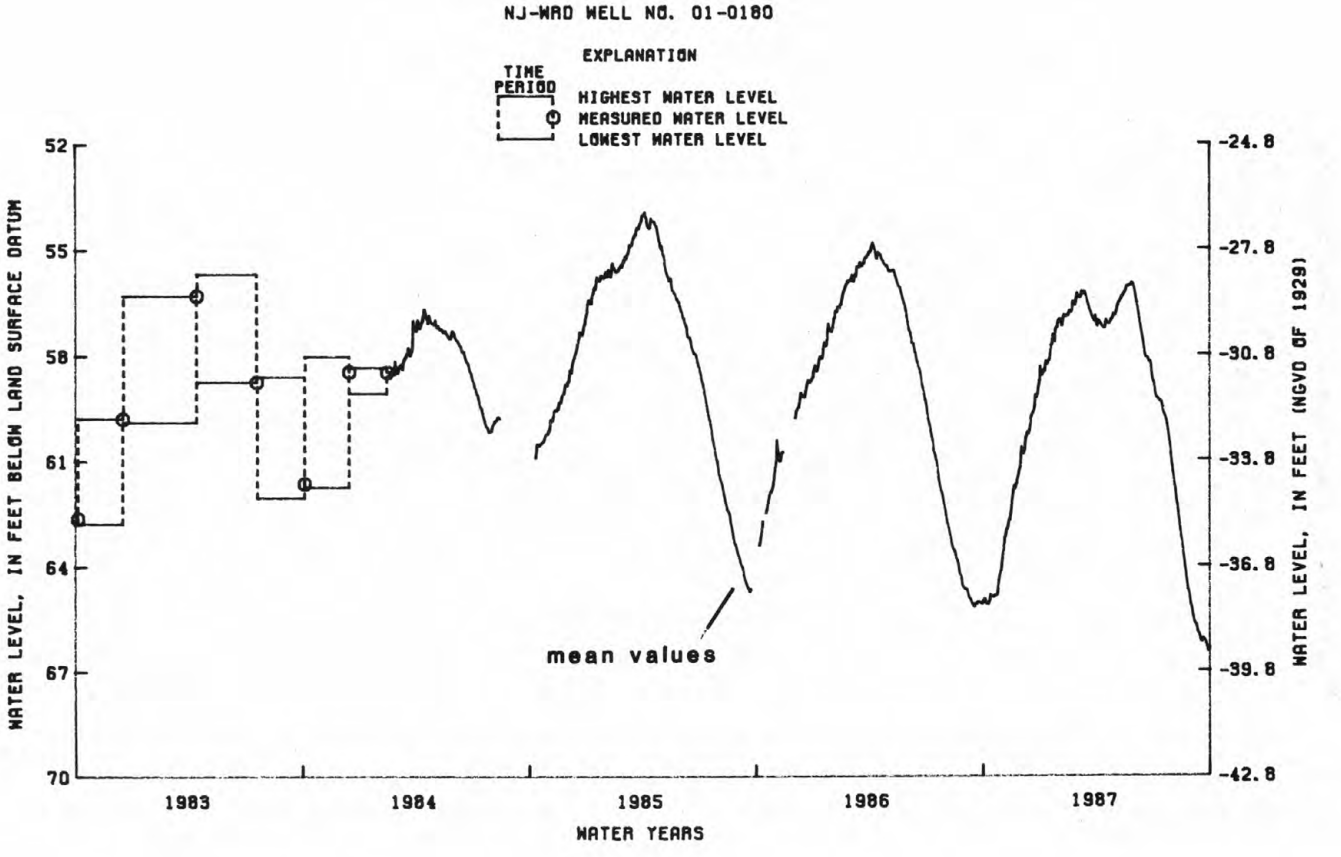
392754074270101. Local I.D., Oceanville 1 Obs. NJ-WRD Well Number, 01-0180.
LOCATION.--Lat 39°27'54", long 74°27'01", Hydrologic Unit 02040302, at Edwin B. Forsythe National Wildlife Refuge, Brigantine Division, Oceanville.
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 570 ft, screened 560 to 570 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, April 1977 to February 1984.
DATUM.--Land-surface datum is 27.17 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of bushing, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--October 1959 to August 1975, April 1977 to current year. Records for 1975 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.62 ft below land-surface datum, Apr. 13, 1961; lowest, 66.51 ft below land-surface datum, Sept. 29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	64.93	63.38	60.83	58.58	57.19	56.38	57.04	56.61	56.45	59.10	61.77	65.61
10	65.11	62.98	60.34	58.30	56.90	56.22	57.17	56.42	57.05	59.28	62.41	65.84
15	64.86	62.59	60.20	58.16	56.87	56.25	57.24	56.24	57.55	59.37	63.17	66.12
20	64.87	61.84	59.67	57.70	56.79	56.61	57.12	56.04	58.08	59.75	63.83	66.07
25	64.82	61.68	59.14	57.64	56.60	56.90	56.99	56.02	58.21	60.14	64.56	66.27
EOM	64.12	61.25	58.86	57.00	56.49	56.88	56.85	56.02	58.61	61.02	65.15	66.33
MEAN	64.83	62.45	59.99	57.95	56.83	56.53	57.08	56.28	57.47	59.64	63.26	65.97

WATER YEAR 1987 -- MEAN 59.87 HIGH 55.83 MAY 29 LOW 66.51 SEP 29



ATLANTIC COUNTY

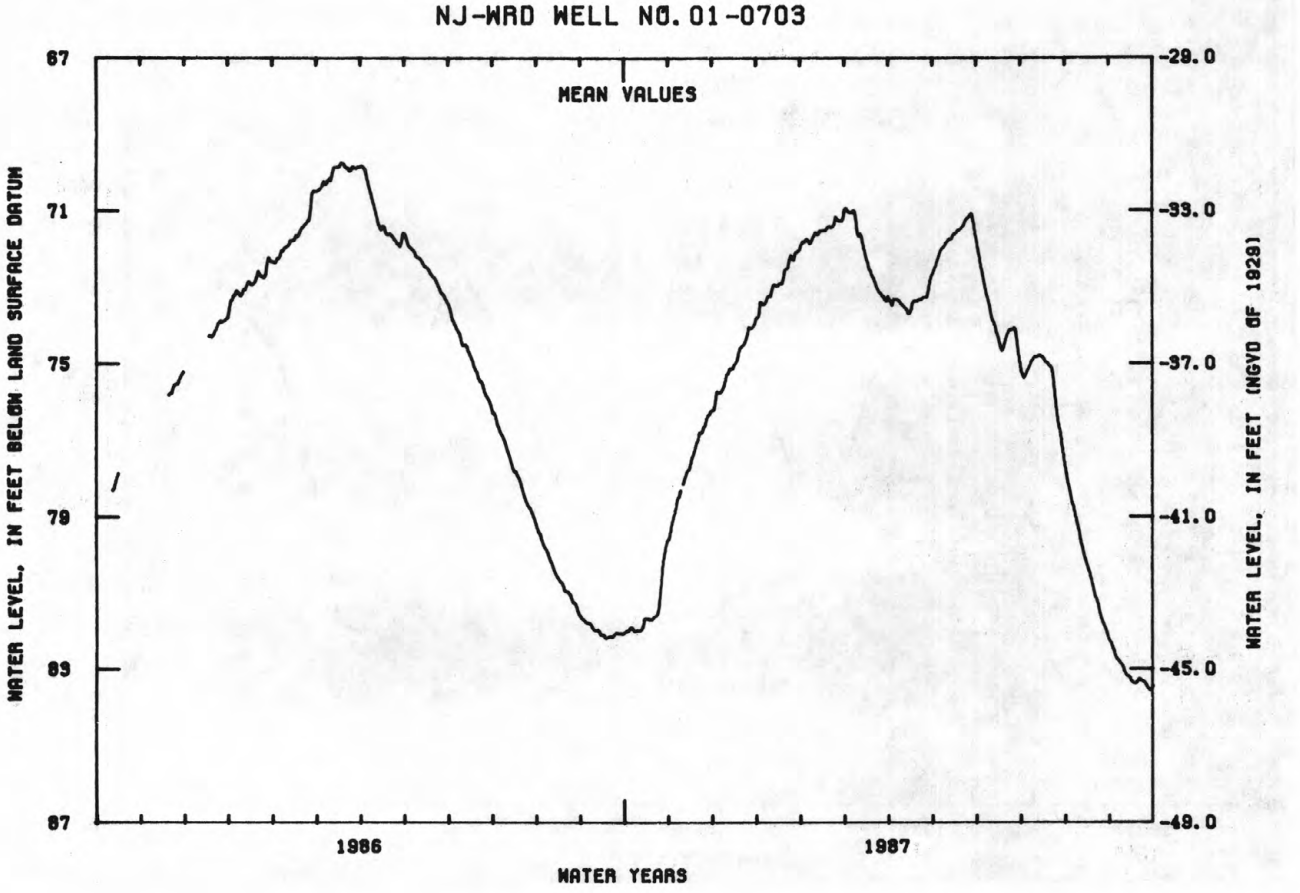
393232074263901. Local I.D., FAA-TW-Pomona Obs. NJ-WRD Well Number, 01-0703.
LOCATION.--Lat 39°26'39", long 74°32'32", Hydrologic Unit 02040302, at the NAFEC Atlantic City Airport, Egg Harbor Township.
Owner: U.S. Geological Survey
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 575 ft, screened 560 to 570 ft.
INSTRUMENTATION.--Digital water-level recorder--60 minute punch.
DATUM.--Land-surface datum is 38 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 1.75 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--October 1985 to current year. Records for 1985 to 1986 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.74 ft below land-surface datum, March 18, 1986; lowest, 83.58 ft below land-surface datum, Sept. 28,29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	81.90	78.72	75.77	73.44	71.87	71.06	73.33	72.20	72.81	75.20	78.65	82.75
10	81.99	78.13	75.27	73.09	71.63	71.61	73.48	71.85	73.70	74.82	79.44	83.05
15	81.65	77.60	75.02	72.91	71.53	72.11	73.69	71.63	74.31	74.82	80.24	83.33
20	81.65	76.99	74.55	72.52	71.45	72.71	73.37	71.48	74.39	75.05	80.95	83.27
25	81.02	76.61	74.05	72.31	71.28	73.14	73.26	71.20	74.10	76.15	81.66	83.42
EOM	79.58	76.21	73.80	71.82	71.23	73.24	72.70	71.80	74.98	77.66	82.28	83.45
MEAN	81.42	77.55	74.90	72.76	71.53	72.16	73.36	71.71	73.83	75.48	80.29	83.15

WATER YEAR 1987 -- MEAN 75.69 HIGH 70.88 MAR 1 LOW 83.58 SEP 28,29



ATLANTIC COUNTY

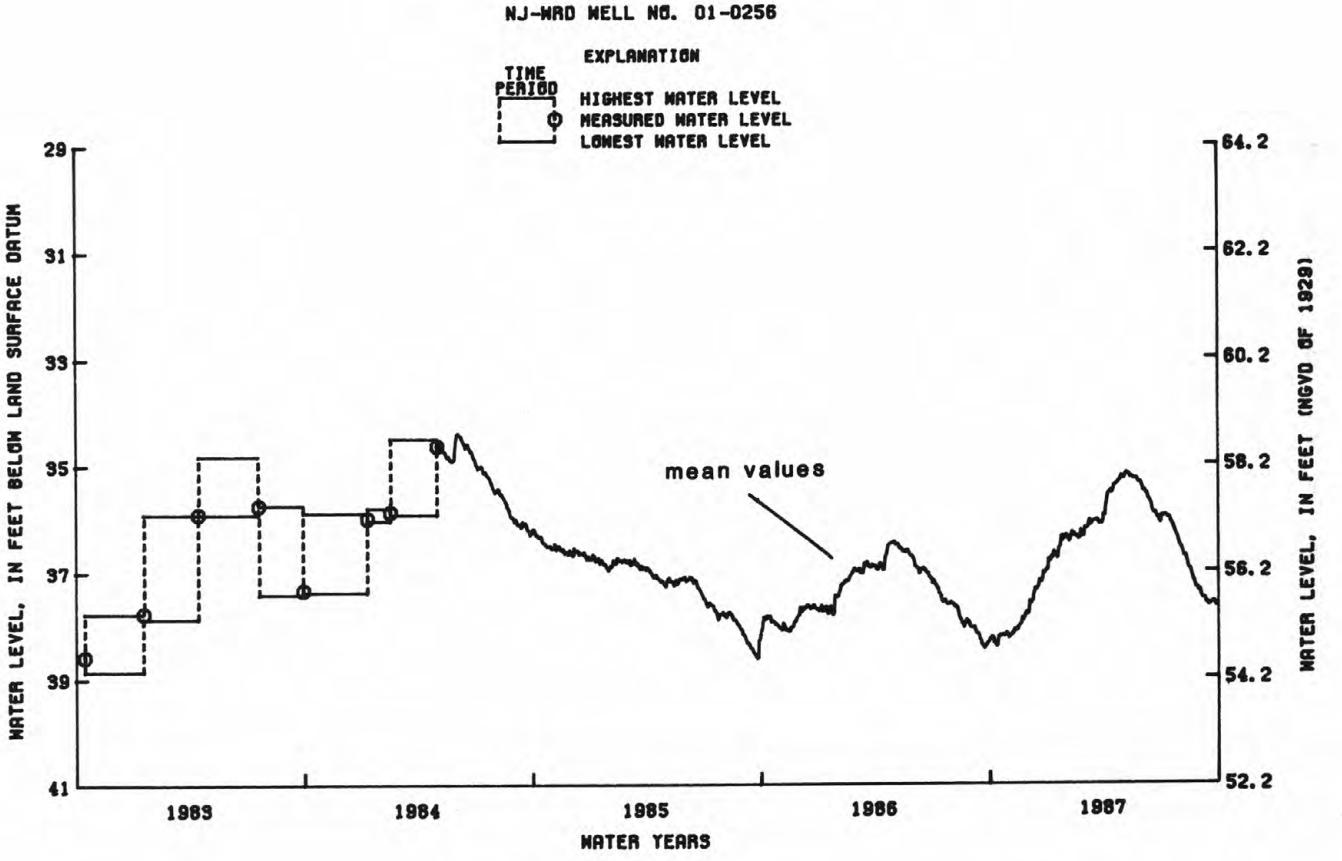
393333074442401. Local I.D., Scholler 1 Obs. NJ-WRD Well Number, 01-0256.
LOCATION.--Lat 39°33'33", long 74°44'26", Hydrologic Unit 02040302, at Scholler Brothers plant, near intersection of Weymouth and Second Roads, Elwood.
Owner: Scholler Brothers Incorporated.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 8 in, depth 275 ft, screened 254 to 275 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to April 1984.
DATUM.--Land-surface datum is 93.19 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.66 ft above land-surface datum.
PERIOD OF RECORD.--April 1962 to August 1975, May 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.18 ft below land-surface datum, Mar. 20, 1963; lowest, 39.56 ft below land-surface datum, Sept. 13, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.24	38.19	37.62	36.81	36.45	36.20	35.72	35.21	35.48	35.96	36.64	37.51
10	38.40	38.13	37.40	36.69	36.32	36.10	35.51	35.18	35.60	35.96	36.72	37.55
15	38.22	38.07	37.32	36.70	36.35	36.07	35.52	35.22	35.73	36.00	36.95	37.64
20	38.20	37.98	37.20	36.55	36.40	36.04	35.39	35.26	35.91	36.14	37.10	37.61
25	38.23	37.89	37.01	36.44	36.33	36.12	35.31	35.30	35.98	36.31	37.28	37.60
EOM	38.27	37.79	36.99	36.32	36.34	35.94	35.22	35.38	36.09	36.50	37.38	37.61
MEAN	38.26	38.02	37.31	36.61	36.35	36.10	35.49	35.26	35.75	36.13	36.97	37.57

WATER YEAR 1987 -- MEAN 36.65 HIGH 35.10 MAY 7 LOW 38.43 OCT 11



BURLINGTON COUNTY

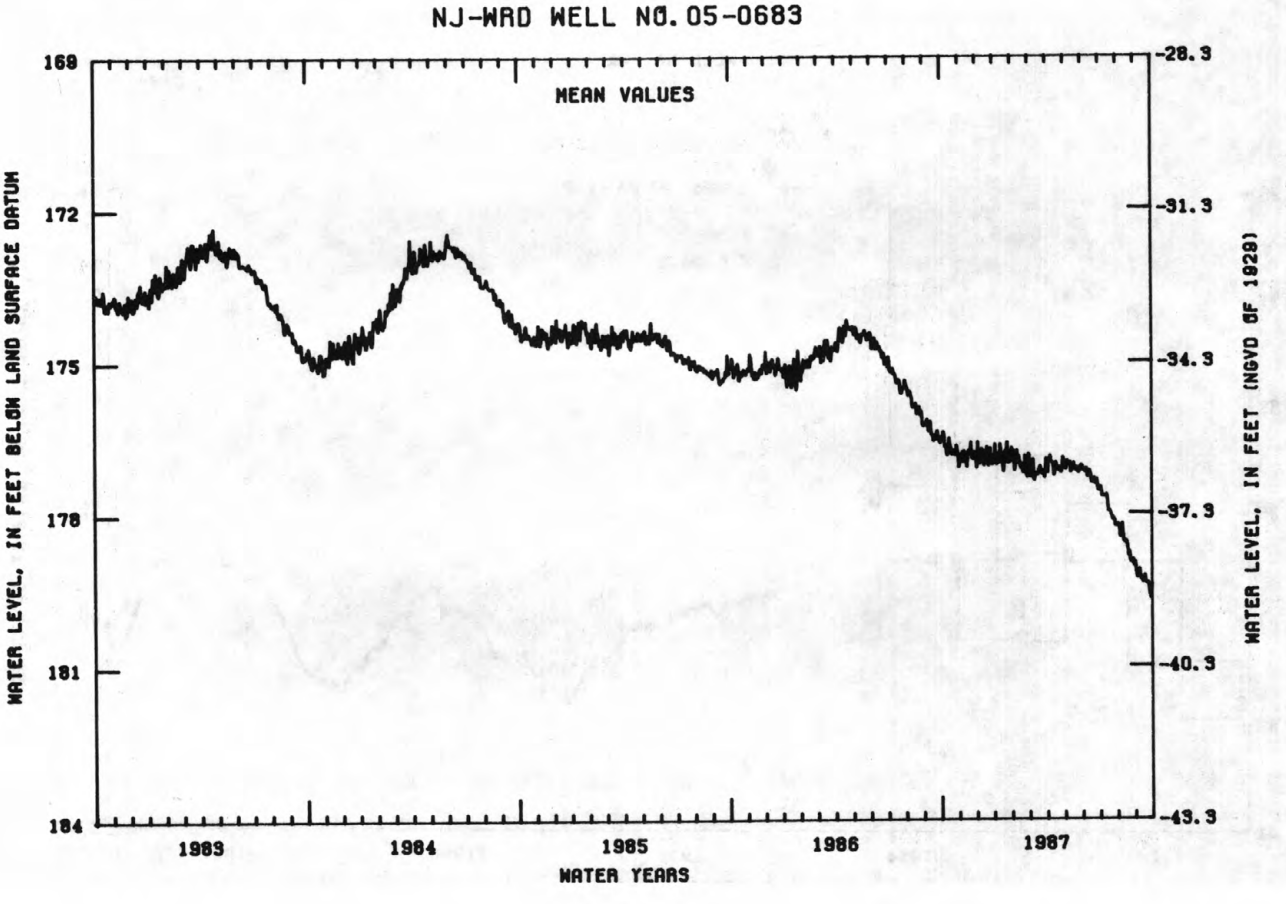
395122074301701. Local I.D., Butler Place 1 Obs. NJ-WRD Well Number, 05-0683.
LOCATION.--Lat 39°51'22", long 74°30'17", Hydrologic Unit 02040301, in Lebanon State Forest, Woodland Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 2,117 ft, screened 2,102 to 2,117 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 140.66 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of coupling, 2.80 ft above land-surface datum.
PERIOD OF RECORD.--October 1964 to August 1975, March 1977 to current year. Records for 1964 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 143.20 ft below land-surface datum, Feb. 25, 1965; lowest, 179.71 ft below land-surface datum, Sept. 28, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	176.40	176.86	176.95	177.04	177.16	177.29	176.98	177.10	177.12	177.58	178.28	179.28
10	176.79	176.97	176.72	176.84	176.97	177.22	176.99	177.00	177.22	177.65	178.20	179.23
15	176.61	176.92	176.96	176.91	177.07	177.25	177.21	177.02	177.17	177.70	178.59	179.37
20	176.79	176.82	176.88	176.91	177.21	177.10	177.15	177.14	177.33	177.98	178.73	179.36
25	176.86	176.94	176.71	177.02	177.18	177.24	177.17	177.18	177.42	178.14	178.98	179.45
EOM	177.10	176.96	177.00	176.70	177.22	176.91	176.91	177.05	177.56	178.21	179.03	179.39
MEAN	176.70	176.86	176.91	176.88	177.02	177.16	177.06	177.08	177.27	177.85	178.61	179.32

WATER YEAR 1987 -- MEAN 177.39 HIGH 176.30 JAN 22 LOW 179.71 SEP 28

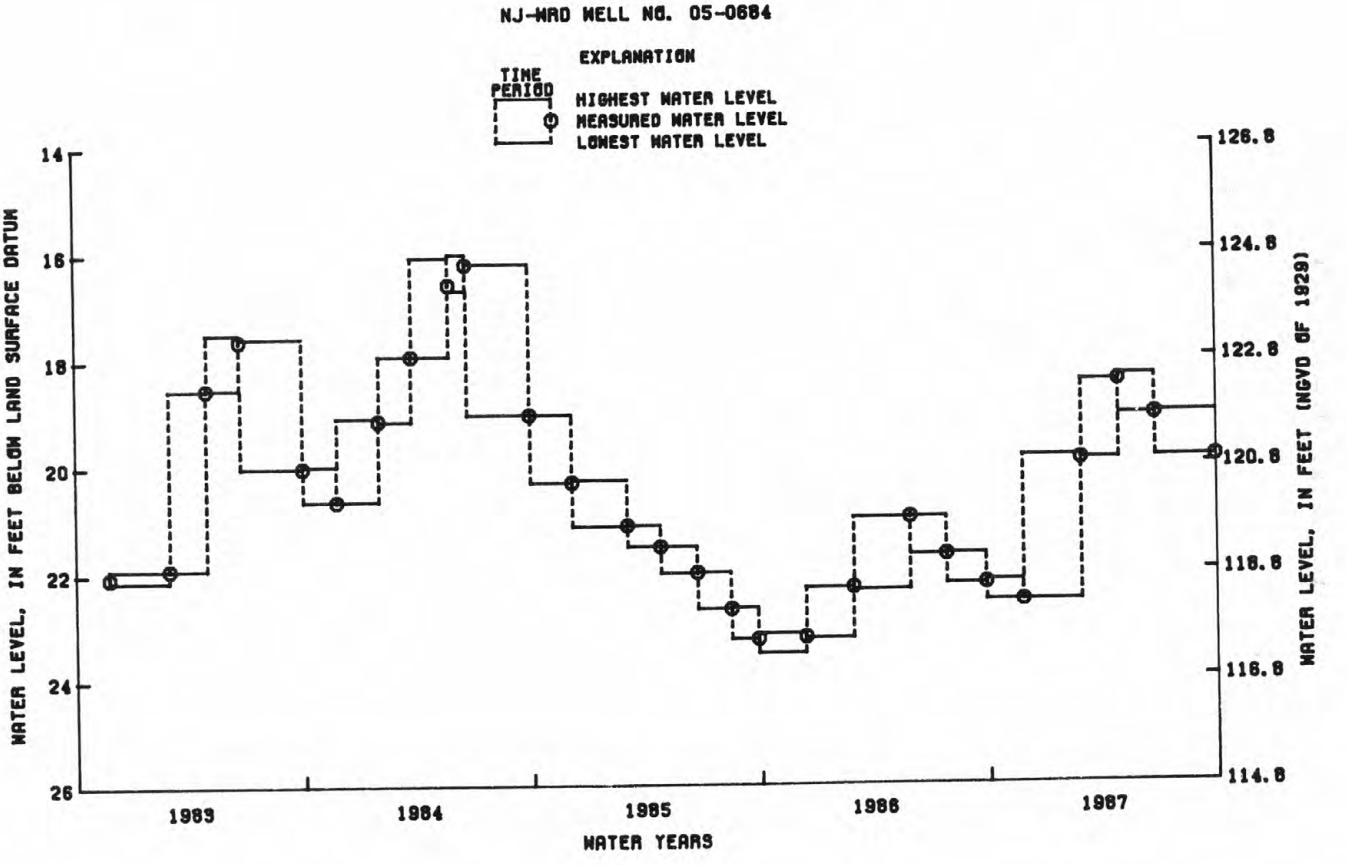


BURLINGTON COUNTY

395122074301702. Local I.D., Butler Place 2 Obs. NJ-WRD Well Number, 05-0684.
LOCATION.--Lat 39°51'22", long 74°30'17", Hydrologic Unit 02040301, in Lebanon State Forest, Woodland Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 4 in, depth 170 ft, screened 160 to 170 ft.
INSTRUMENTATION.--Water-level extremes recorder, March 1977 to current year. Water-level recorder, May 1965 to April 1975.
DATUM.--Land-surface datum is 140.82 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 2.67 ft above land-surface datum.
PERIOD OF RECORD.--May 1965 to April 1975, March 1977 to current year. Records for 1965 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.14 ft below land-surface datum, Feb. 15, 1973; lowest, 23.53 ft below land-surface datum, between Sept. 26, and Dec. 11, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO NOV. 24, 1986	22.17	22.56	NOV. 24, 1986	22.56
NOV. 24, 1986 TO FEB. 26, 1987	19.85	22.56	FEB. 26, 1987	19.92
FEB. 26, 1987 TO APR. 27, 1987	18.45	19.92	APR. 27, 1987	18.45
APR. 27, 1987 TO JUNE 24, 1987	18.35	19.09	JUNE 24, 1987	19.09
JUNE 24, 1987 TO SEPT. 29, 1987	19.05	19.89	SEPT. 29, 1987	19.89



CAMDEN COUNTY

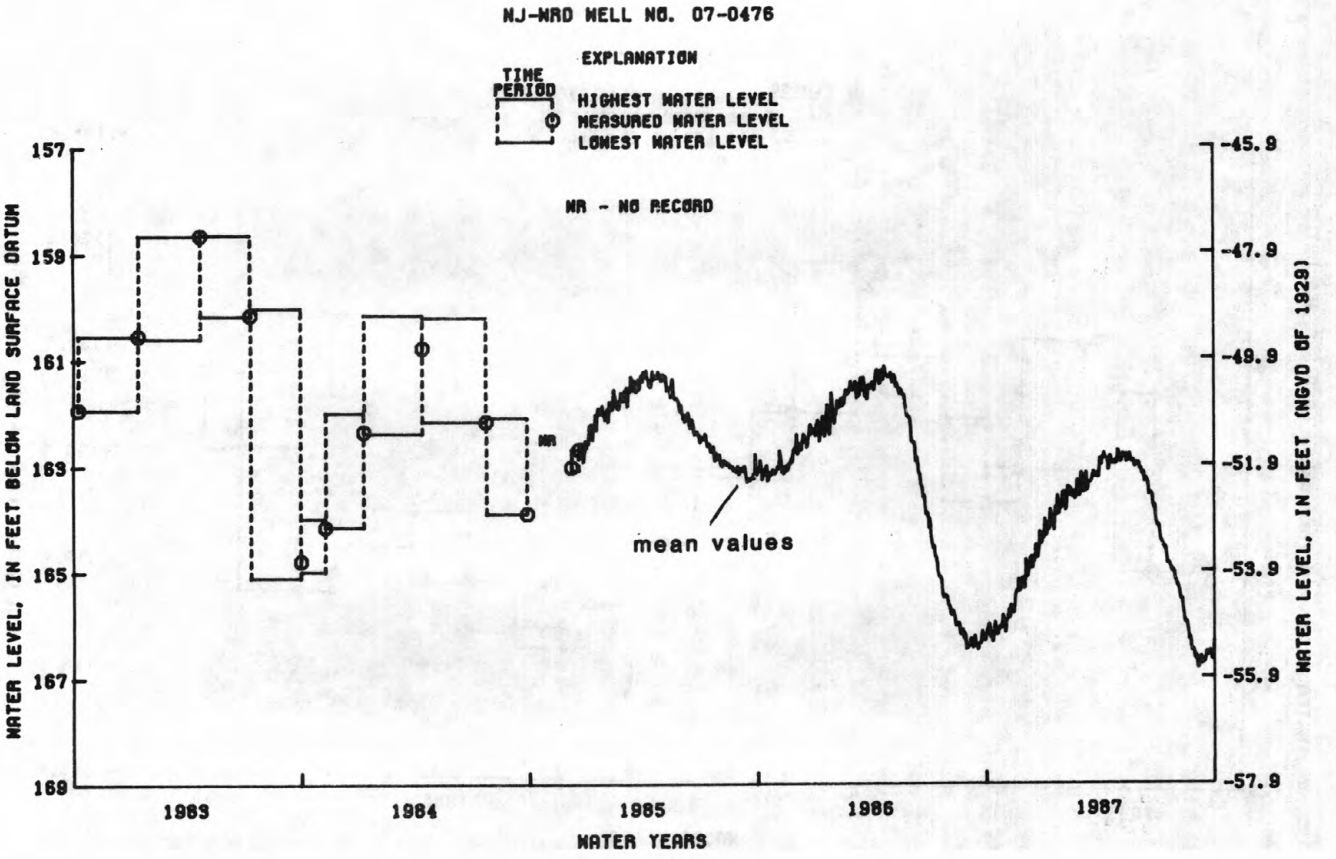
394215074561701. Local I.D., New Brooklyn Park 1 Obs. NJ-WRD Well Number, 07-0476.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 1,505 ft, screened 1,485 to 1,495 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.
DATUM.--Land-surface datum is 111.13 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of coupling, 1.75 ft above land-surface datum.
PERIOD OF RECORD.--February 1963 to August 1975, February 1977 to current year. Records for 1963 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 120.16 ft below land-surface datum, March 6, 1963; lowest, 166.88 ft below land-surface datum, Sept. 4,5, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	165.99	165.82	165.06	164.33	163.85	163.52	162.89	162.92	163.07	164.27	165.34	166.83
10	166.29	165.78	164.73	164.02	163.57	163.37	162.88	162.81	163.24	164.48	165.52	166.70
15	166.04	165.61	164.83	164.01	163.59	163.34	163.05	162.81	163.30	164.60	165.97	166.72
20	166.11	165.37	164.63	163.91	163.64	163.15	162.98	162.91	163.52	164.85	166.17	166.59
25	166.08	165.34	164.24	163.92	163.53	163.23	162.97	162.97	163.78	165.01	166.48	166.53
EOM	166.15	165.20	164.39	163.51	163.51	162.87	162.74	162.95	164.10	165.18	166.64	166.32
MEAN	166.08	165.53	164.73	163.97	163.55	163.26	162.91	162.89	163.42	164.68	165.94	166.63

WATER YEAR 1987 -- MEAN 164.47 HIGH 162.57 APR 29 LOW 166.88 SEP 4,5



CAMDEN COUNTY

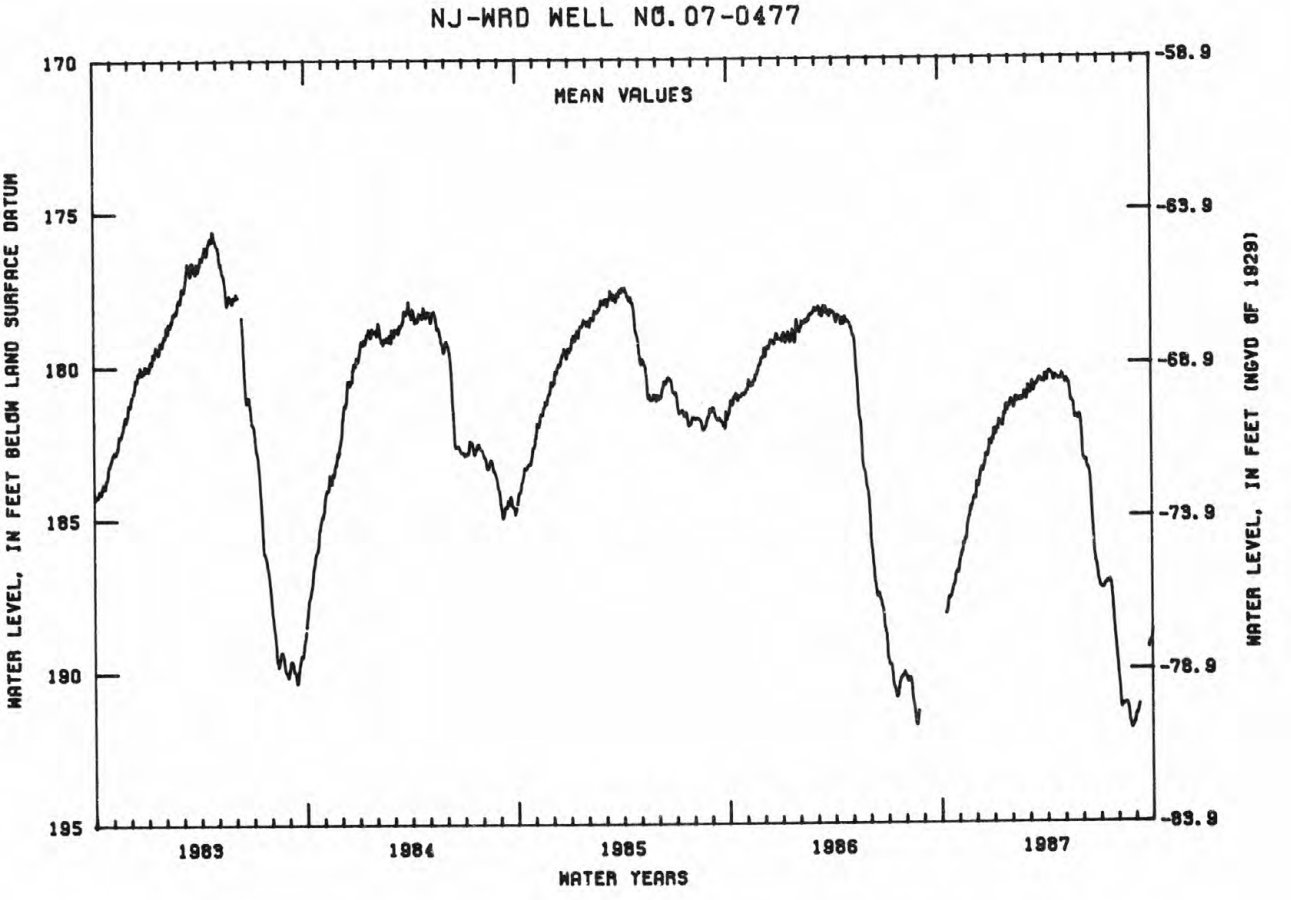
394215074561702. Local I.D., New Brooklyn Park 2 Obs. NJ-WRD Well Number, 07-0477.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Upper aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 849 ft, screened 829 to 839 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 111.13 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 3.30 ft above land-surface datum.
PERIOD OF RECORD.--January 1963 to August 1975, March 1977 to current year. Records for 1963 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 131.54 ft below land-surface datum, Mar. 6, 1963; lowest, 191.95 ft below land-surface datum, Aug. 25, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	186.29	184.02	182.33	181.47	180.98	180.35	180.63	183.14	187.33	190.82	191.32
10	188.13	185.93	183.50	182.00	181.22	180.80	180.34	180.64	183.35	187.23	191.12	---
15	187.68	185.50	183.38	181.92	181.21	180.71	180.56	181.19	183.73	187.11	191.11	---
20	187.45	184.97	183.02	181.69	181.22	180.51	180.50	181.70	185.40	187.13	191.44	---
25	187.18	184.65	182.52	181.57	181.13	180.62	180.51	181.79	186.50	188.25	191.93	189.13
EOM	186.83	184.35	182.52	181.17	181.09	180.35	180.39	181.90	187.11	189.66	191.66	188.69
MEAN	187.39	185.40	183.30	181.83	181.18	180.68	180.44	181.21	184.57	187.67	191.26	190.13

WATER YEAR 1987 -- MEAN 184.29 HIGH 180.22 APR 29 LOW 191.95 AUG 25



CAMDEN COUNTY

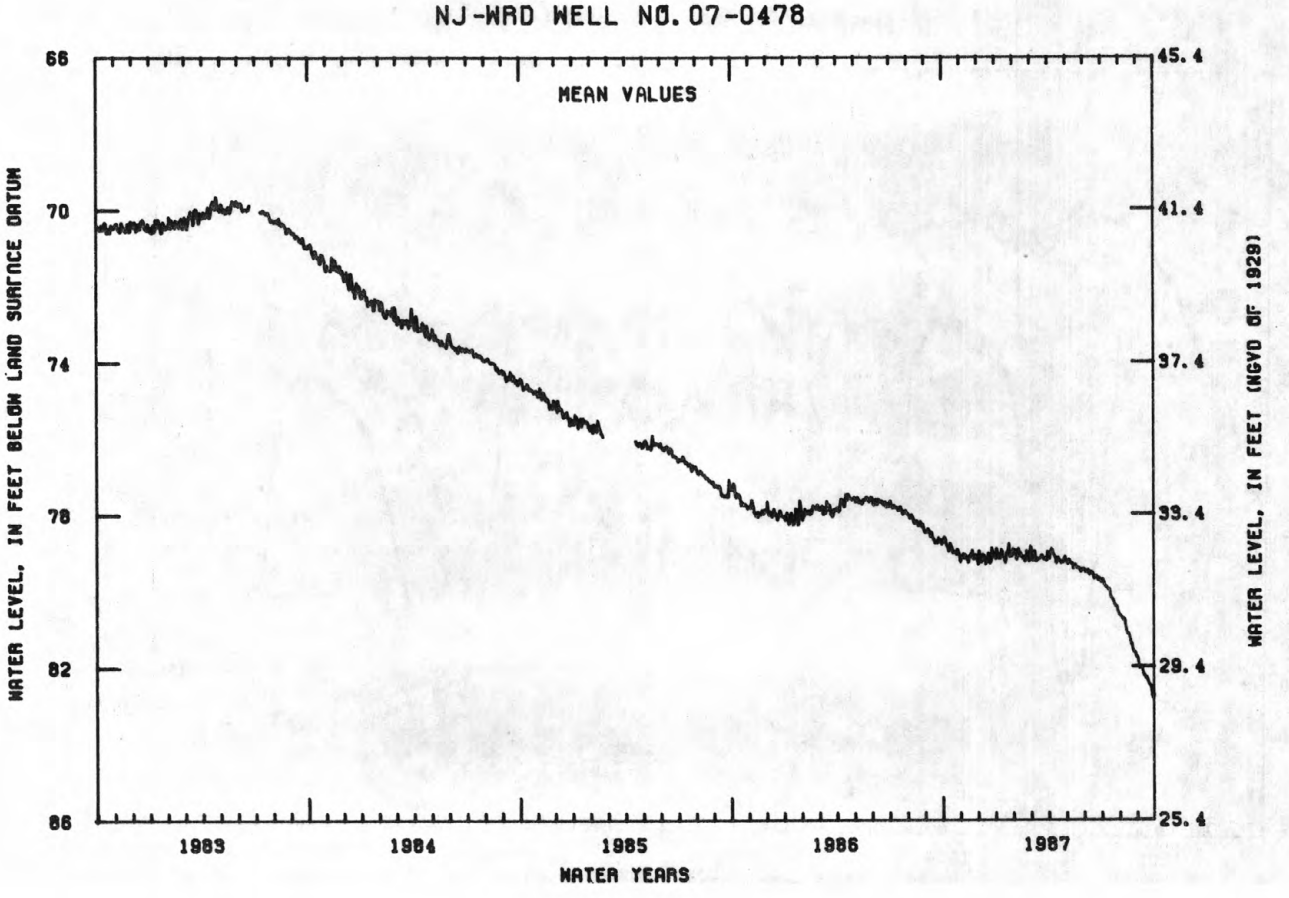
394215074561703. Local I.D., New Brooklyn Park 3 Obs. NJ-WRD Well Number, 07-0478.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 540 ft, screened 520 to 530 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 111.45 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 6 inch coupling, 2.10 ft above land-surface datum.
PERIOD OF RECORD.--December 1962 to August 1975, March 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.53 ft below land-surface datum, Dec. 18, 1962; lowest, 82.84 ft below land-surface datum, Sept. 28,29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	78.59	79.11	79.17	79.14	79.18	79.18	78.97	79.28	79.47	79.76	80.70	82.03
10	78.88	79.13	79.04	79.08	79.04	79.10	79.05	79.28	79.52	79.91	80.73	82.07
15	78.78	79.22	79.24	79.11	79.12	79.16	79.28	79.34	79.53	79.96	81.13	82.28
20	78.99	79.12	79.12	78.99	79.24	79.08	79.22	79.41	79.65	80.23	81.30	82.40
25	79.06	79.17	78.88	79.12	79.15	79.19	79.24	79.45	79.73	80.41	81.58	82.55
EOM	79.21	79.20	79.11	78.90	79.21	78.98	79.10	79.43	79.77	80.59	81.77	82.71
MEAN	78.88	79.12	79.15	79.05	79.09	79.12	79.14	79.35	79.59	80.11	81.14	82.28

WATER YEAR 1987 -- MEAN 79.67 HIGH 78.56 OCT 4,5 LOW 82.84 SEP 28,29



CAMDEN COUNTY

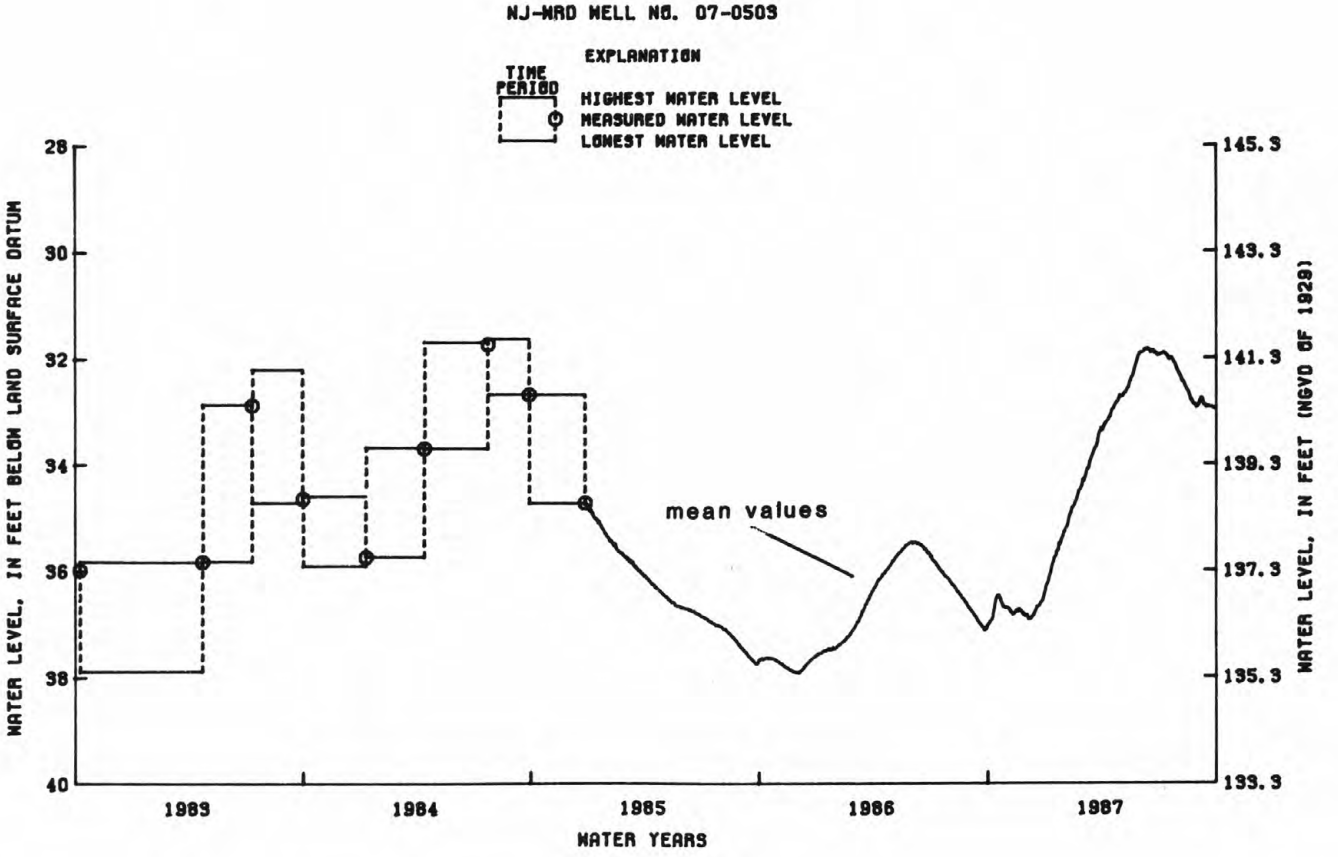
394440074593101. Local I.D., Winslow WC 5 Obs. NJ-WRD Well Number, 07-0503.
LOCATION.--Lat 39°44'40", long 74°59'31", Hydrologic Unit 02040302, about 1,000 ft east of intersection of Cross Keys-Berlin and Erial-Williamstown Roads, Winslow Township.
Owner: Winslow Water Company.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 76 ft, screened 71 to 76 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, November 1977 to December 1984.
DATUM.--Land-surface datum is 173.26 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 1.00 ft above land surface datum.
PERIOD OF RECORD.--December 1972 to current year. Records for 1972 to 1980 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.78 ft below land-surface datum, May 20-21, 1973; lowest, 38.35 ft below land-surface datum, between June 3 and Oct. 6, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	36.95	36.75	36.92	36.19	35.12	34.23	33.26	32.68	31.89	31.92	32.38	32.76
10	36.73	36.84	36.88	35.93	34.90	34.09	33.17	32.59	31.85	31.91	32.48	32.86
15	36.48	36.74	36.77	35.74	34.78	33.87	33.03	32.44	31.84	32.00	32.61	32.93
20	36.52	36.72	36.68	35.63	34.62	33.70	32.91	32.32	31.85	31.99	32.77	32.93
25	36.69	36.82	36.59	35.44	34.46	33.52	32.83	32.11	31.91	32.09	32.87	32.94
EOM	36.71	36.86	36.39	35.26	34.37	33.32	32.74	31.90	31.95	32.26	32.91	32.93
MEAN	36.70	36.78	36.72	35.75	34.78	33.83	33.02	32.38	31.88	32.01	32.64	32.89

WATER YEAR 1987 -- MEAN 34.11 HIGH 31.80 JUN 8,9 LOW 37.02 OCT 1



CUMBERLAND COUNTY

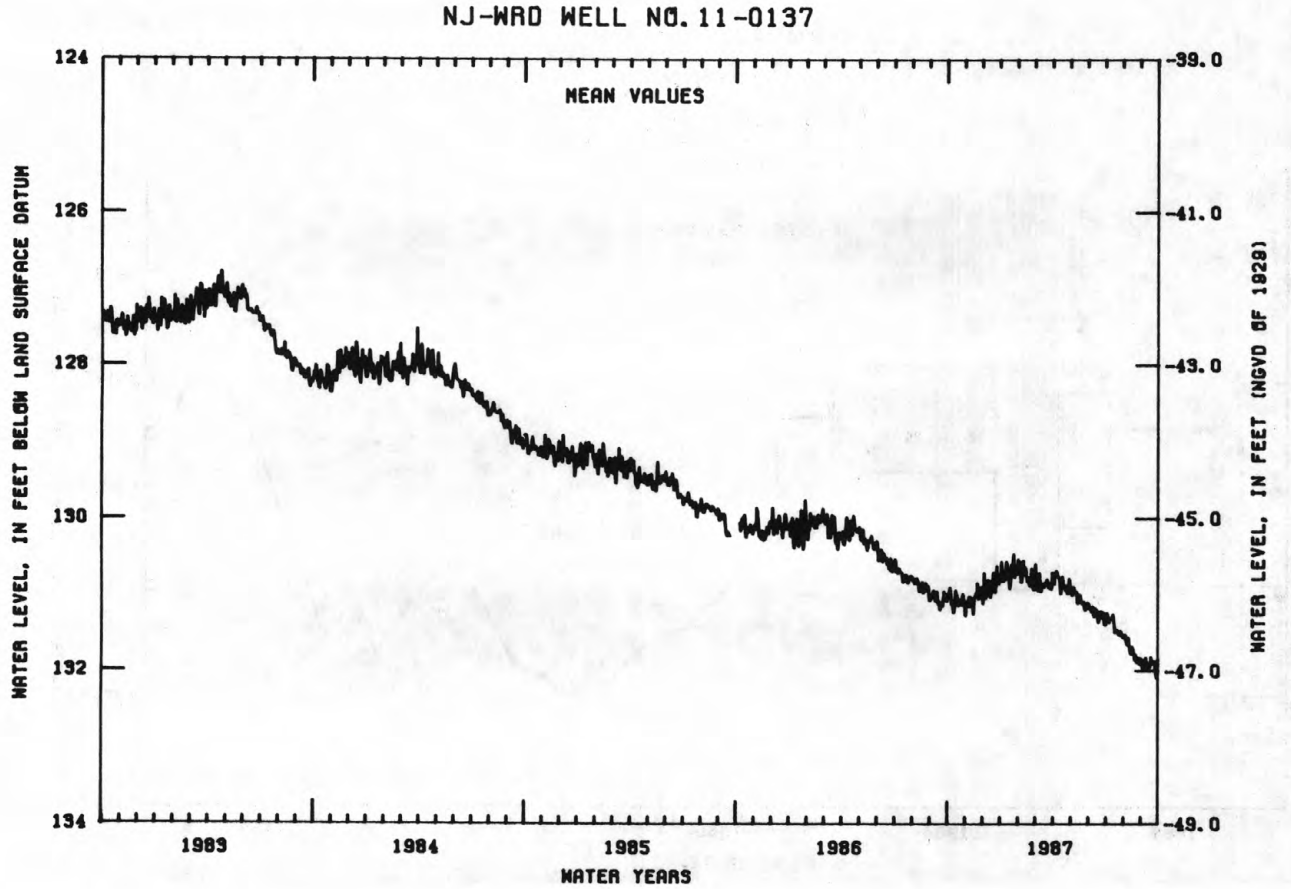
392512074521206. Local I.D., Ragovin 2100 Obs. NJ-WRD Well Number 11-0137.
LOCATION.--Lat 39°25'12", long 74°52'12", Hydrologic Unit 02040302, in wooded area off Harriet Avenue, 1.5 mi southeast of Milmay.
Owner: Sam DeRosa.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 5 in, depth 2,093 ft, perforated casing 2083 to 2,093 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 85 ft above National Geodedic Vertical Datum of 1929, by altimeter.
Measuring point: Top edge of recorder shelf, 2.40 ft above land-surface datum.
REMARKS.--This well is screened in a saline zone of the aquifer system (Luzier, 1980,p. 8-12). An equivalent freshwater head is obtained by multiplying the column of water in the well by the ratio of density of water in the well to the density of freshwater. In 1974, the density of water was 1.011 grams per milliliter at 20 deg. C and a plus 17 foot correction was needed to obtain the equivalent freshwater head.
PERIOD OF RECORD.--October 1974 to April 1975, February 1977 to current year. Records for 1974 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 115.82 ft below land-surface datum, Apr. 3, 1975; lowest, 132.12 ft below land-surface datum, Sept. 28, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	130.90	131.09	130.97	130.82	130.84	130.92	130.71	130.99	131.17	131.30	131.54	132.00
10	131.18	131.13	130.80	130.68	130.68	130.83	130.76	130.95	131.23	131.30	131.56	131.91
15	130.95	131.14	130.97	130.74	130.77	130.87	130.94	131.00	131.19	131.32	131.77	131.96
20	131.11	131.02	130.83	130.67	130.89	130.82	130.91	131.10	131.28	131.46	131.79	131.90
25	131.14	131.04	130.62	130.77	130.85	130.91	130.95	131.16	131.29	131.53	131.90	131.93
EOM	131.27	131.02	130.81	130.53	130.91	130.70	130.80	131.10	131.40	131.55	131.89	131.84
MEAN	131.06	131.05	130.89	130.70	130.75	130.84	130.83	131.04	131.24	131.40	131.72	131.92

WATER YEAR 1987 -- MEAN 131.12 HIGH 130.42 JAN 22,23 LOW 132.12 SEP 28

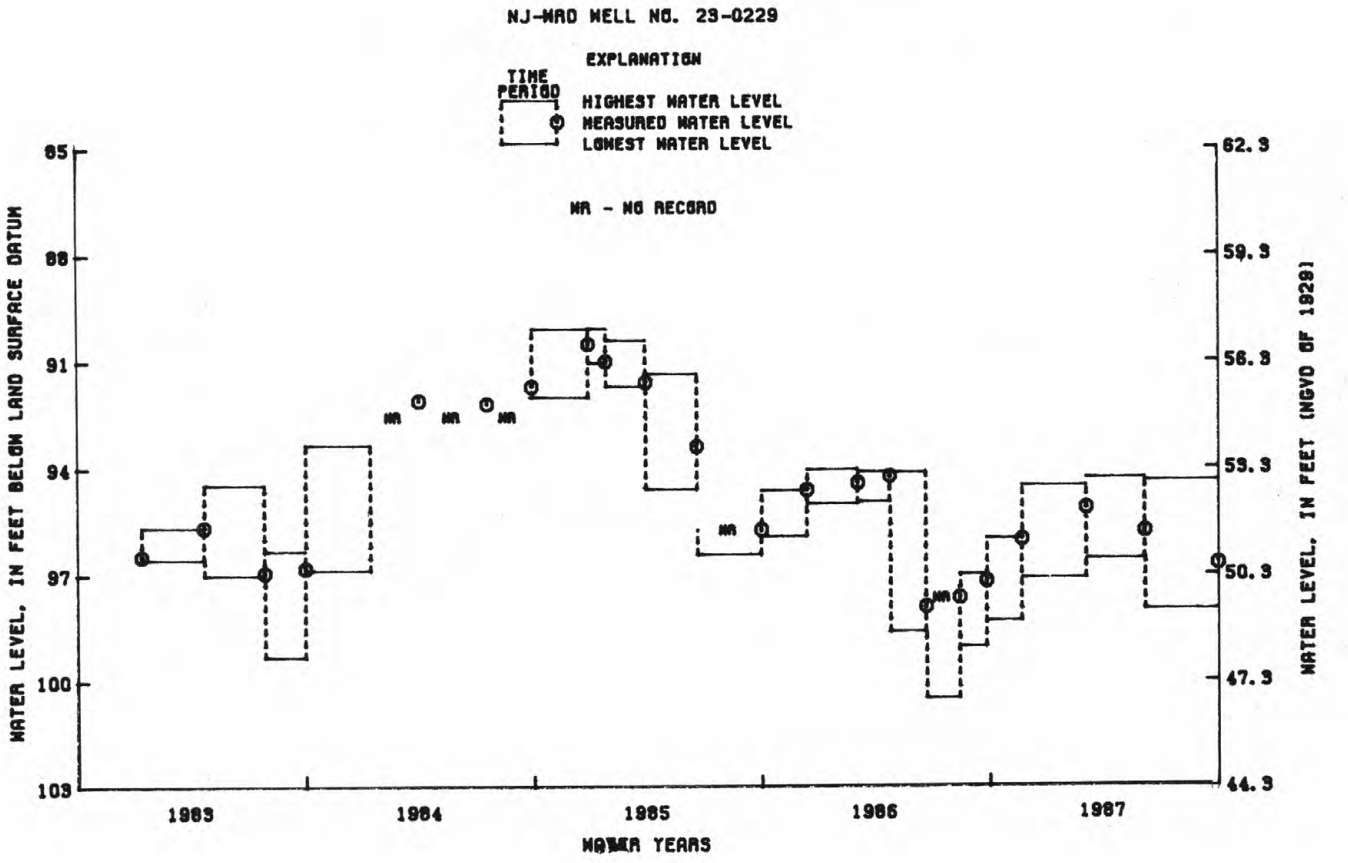


MIDDLESEX COUNTY

402015074275702. Local I.D., Forsgate 4 Obs.. NJ-WRD Well Number, 23-0229.
LOCATION.--Lat 40°20'15", long 74°27'57", Hydrologic Unit 02030105, on Hanover Lane at Rossmoor, Monroe Township.
Owner: Monroe Township Municipal Utilities Authority.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 330 ft screened 319 to 330 ft.
INSTRUMENTATION.--Water-level extremes recorder, January 1977 to current year. Water-level recorder, April 1965 to August 1967, August 1968 to August 1975.
DATUM.--Land-surface datum is 147.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.50 ft below land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--April 1965 to August 1967, August 1968 to August 1975, January 1977 to current year. Records for 1965 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 80.09 ft below land-surface datum, July 16, 1973; lowest, 100.47 ft below land-surface datum, between June 20 and Aug. 13, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES		MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1986 TO NOV. 21, 1986	95.95	98.29	NOV. 21, 1986	95.99
NOV. 21, 1986 TO MAR. 3, 1987	94.47	97.08	MAR. 3, 1987	95.10
MAR. 3, 1987 TO JUNE 5, 1987	94.25	96.54	JUNE 5, 1987	95.76
JUNE 5, 1987 TO SEPT. 30, 1987	94.33	97.98	SEPT. 30, 1987	96.68

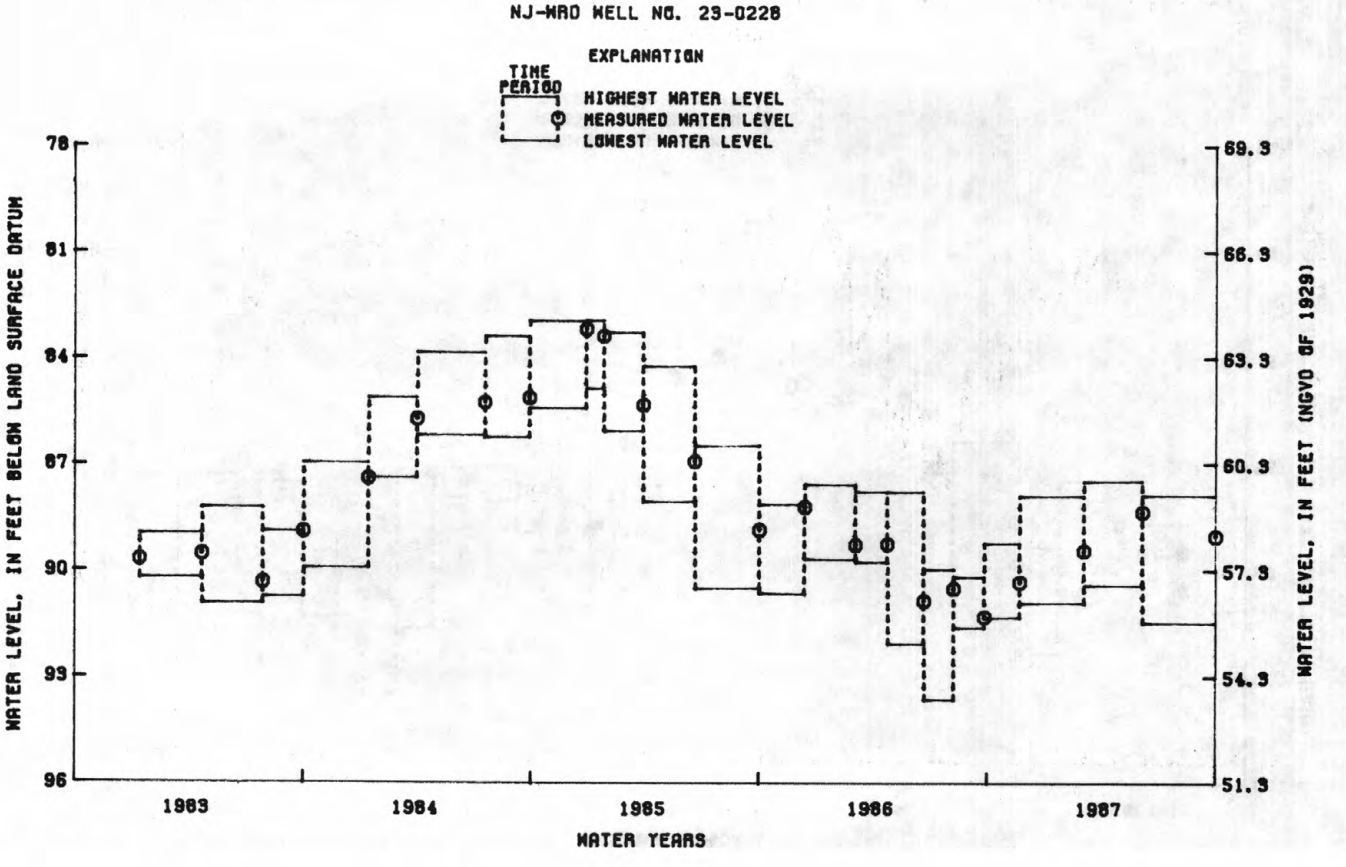


MIDDLESEX COUNTY

402015074275701. Local I.D., Forsgate 3 Obs. NJ-WRD Well Number, 23-0228.
LOCATION.--Lat 40°20'15", long 74°27'57", Hydrologic Unit 02030105, on Hanover Lane at Rossmoor, Monroe Township.
Owner: Monroe Township Municipal Utilities Authority.
AQUIFER.--Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 138 ft, screened 128 to 138 ft.
INSTRUMENTATION.--Water-level extremes recorder, January 1977 to current year. Water-level recorder, October 1961 to August 1967, August 1968 to August 1975.
DATUM.--Land-surface datum is 147.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.40 ft below land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--October 1961 to August 1967, August 1968 to August 1975, January 1977 to current year. Records for 1961 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.32 ft below land-surface datum, May 6, 1962; lowest, 93.64 ft below land-surface datum, between June 20 and Aug. 7, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1986 TO NOV. 21, 1986	89.21	91.33	NOV. 21, 1986	90.32
NOV. 21, 1986 TO MAR. 3, 1987	87.88	90.93	MAR. 3, 1987	89.45
MAR. 3, 1987 TO JUNE 5, 1987	87.47	90.43	JUNE 5, 1987	88.36
JUNE 5, 1987 TO SEPT. 30, 1987	87.88	91.47	SEPT. 30, 1987	89.03



MIDDLESEX COUNTY

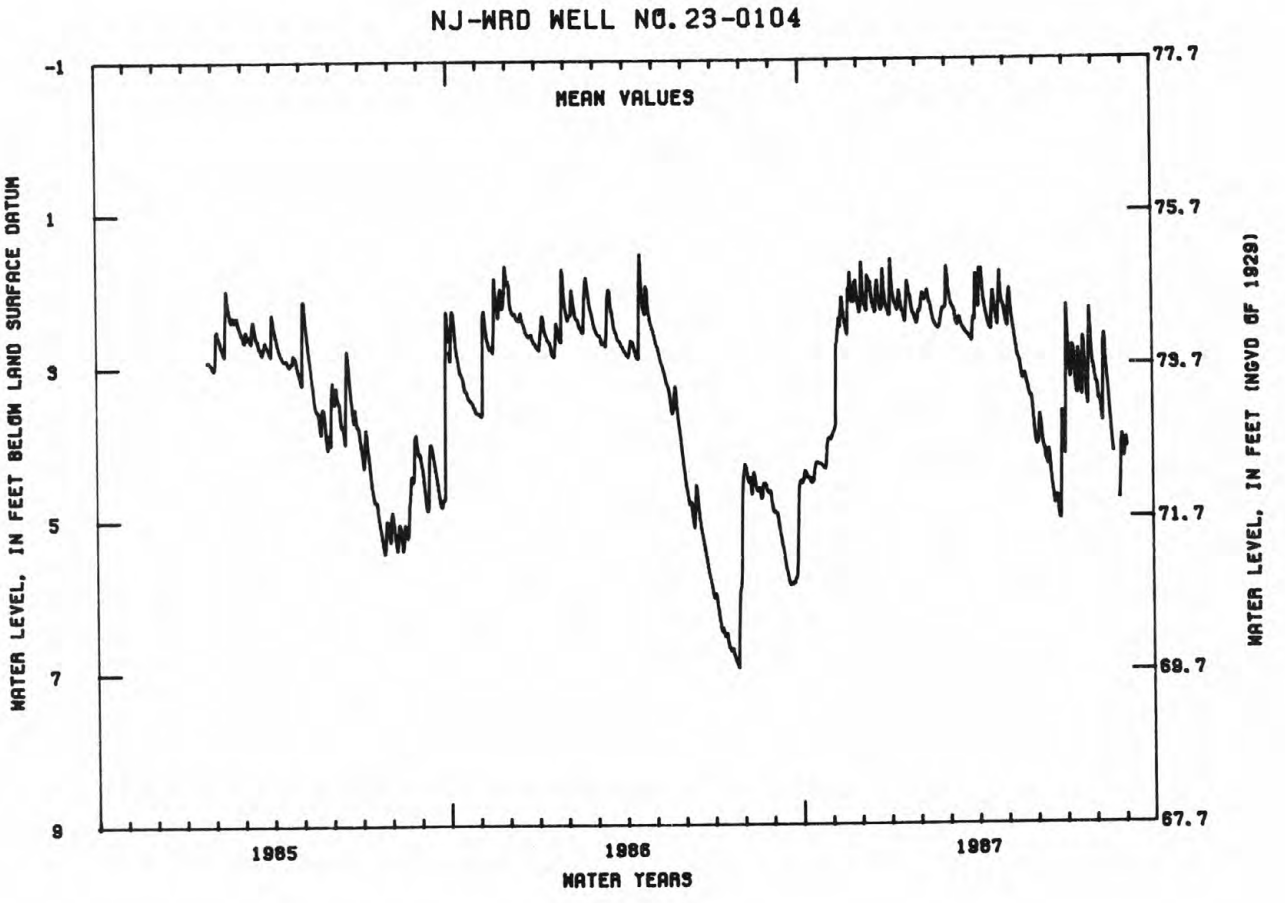
402143074185201. Local I.D., Morrell 1 Obs. NJ-WRD Well Number 23-0104.
LOCATION.--Lat 40°21'43", long 74°18'49", Hydrologic Unit 02030105, on the north side of Texas Road, about .4 mi. east of Route 9, Old Bridge Township
OWNER: Olympia and York Bridge Development Corp.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Dug water-table observation well, diameter 17 in, depth 11 ft, cased with precast concrete rings.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 76.75 ft above National Geodedic Vertical Datum of 1929.
Measuring point: Top inside edge of concrete ring, .20 ft above land-surface datum.
REMARKS.--Well depth was 6 ft before deepening in September 1932. Missing record from September 3-30 was due to recorder malfunction.
PERIOD OF RECORD.--October 1923 to July 1975, January 1985 to current year. Periodic manual measurments August 1975 to December 1984. Records for 1973 to 1985 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.18 ft below land-surface datum, August 27, 1971; lowest, 10.40 ft below land surface datum, October 13, 1953. Well was dry, August to September 1932, before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.38	3.75	2.12	2.12	2.11	2.16	1.87	2.00	3.64	2.84	3.46	---
10	4.51	2.50	1.88	2.14	2.10	2.40	2.26	2.58	4.10	2.77	2.70	---
15	4.27	2.42	2.23	2.32	2.40	2.43	2.52	2.93	4.17	2.79	3.29	---
20	4.27	2.10	2.07	1.96	2.52	2.57	2.26	3.15	4.81	2.63	4.14	---
25	4.34	2.17	1.74	2.32	2.25	2.65	1.77	3.36	5.00	3.52	---	---
EOM	3.96	2.24	2.35	2.28	2.23	1.81	2.31	3.88	4.02	3.03	4.21	---
MEAN	4.31	2.52	2.12	2.20	2.28	2.37	2.19	2.93	4.28	3.01	3.57	---

WATER YEAR 1987 -- HIGH 1.20 APR 4 LOW 5.11 JUN 25



MIDDLESEX COUNTY

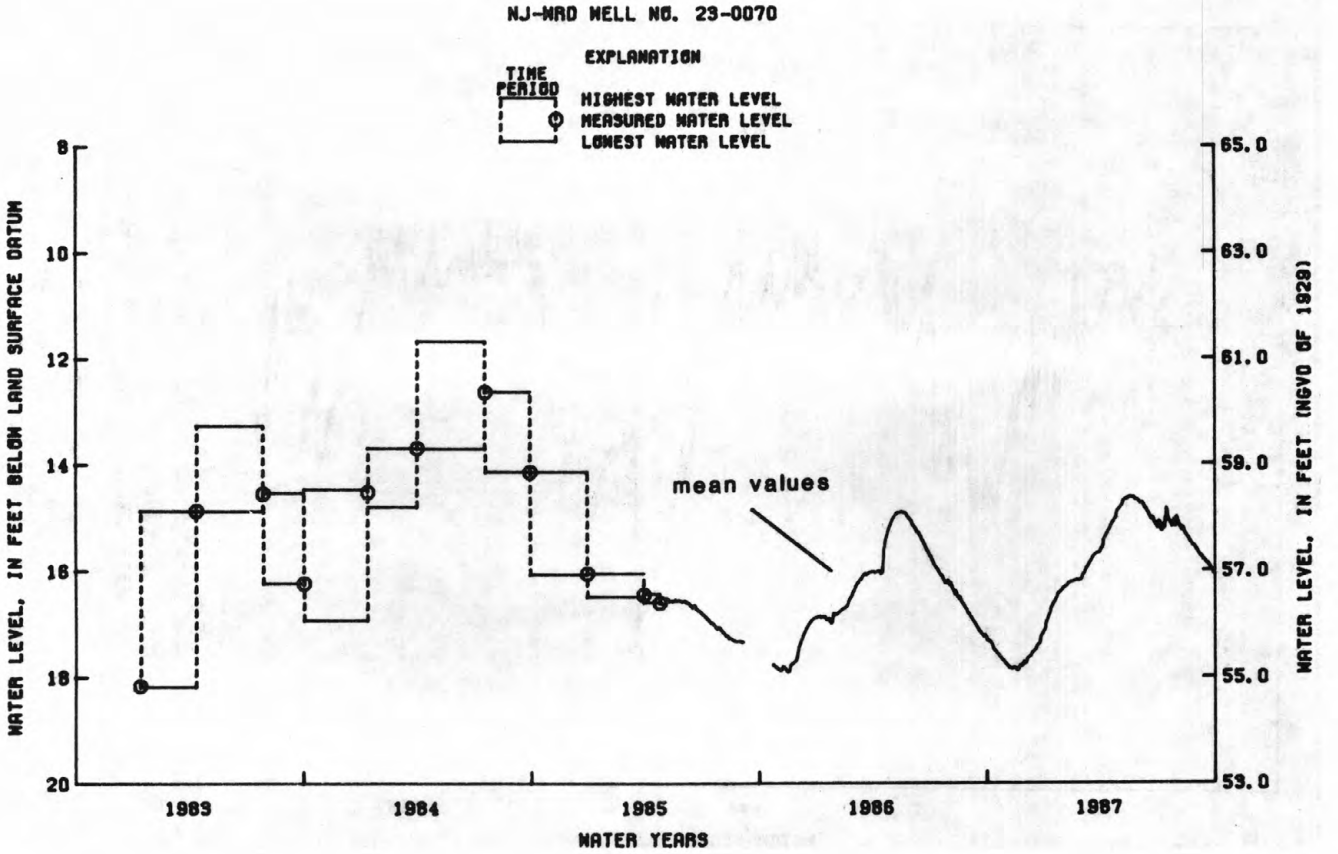
402553074271701. Local I.D., Robert Fischer Obs. NJ-WRD Well Number, 23-0070.
LOCATION.--Lat 40°25'55", long 74°27'19", Hydrologic Unit 02030105, about 1,800 ft southeast of Weber School on Hardenburg Lane, East Brunswick Township.
Owner: Robert D. Fischer.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Dug water-table observation well, diameter 4.5 ft, depth 21 ft, lined with concrete blocks.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, January 1977 to April 1985.
DATUM.--Land-surface datum is 73.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of angle iron at bottom of shelter doors, 1.70 ft above land-surface datum.
REMARKS.--Well deepened October 29, 1965 from 17 to 21 ft.
PERIOD OF RECORD.--June 1936 to April 1975, January 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.88 ft below land-surface datum, Apr. 26-27, 1939; lowest, 19.11 ft below land-surface datum, between July 24 and Oct. 6, 1981; well was dry many times, 1963-1965 before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	17.34	17.83	17.63	16.92	16.29	16.05	15.42	14.74	14.70	15.18	15.16	15.69
10	17.46	17.85	17.59	16.75	16.24	15.93	15.31	14.65	14.82	15.15	15.18	15.75
15	17.53	17.84	17.50	16.60	16.21	15.82	15.20	14.61	14.91	14.82	15.33	15.82
20	17.60	17.87	17.40	16.50	16.19	15.72	15.09	14.63	15.02	15.08	15.42	15.88
25	17.68	17.79	17.29	16.41	16.19	15.68	14.96	14.65	15.08	15.16	15.52	15.98
EOM	17.76	17.72	17.13	16.32	16.17	15.62	14.83	14.69	15.19	14.98	15.59	16.07
MEAN	17.53	17.81	17.46	16.63	16.22	15.83	15.19	14.67	14.92	15.11	15.34	15.84

WATER YEAR 1987 -- MEAN 16.05 HIGH 14.60 MAY 17,18 LOW 17.88 NOV 18-20

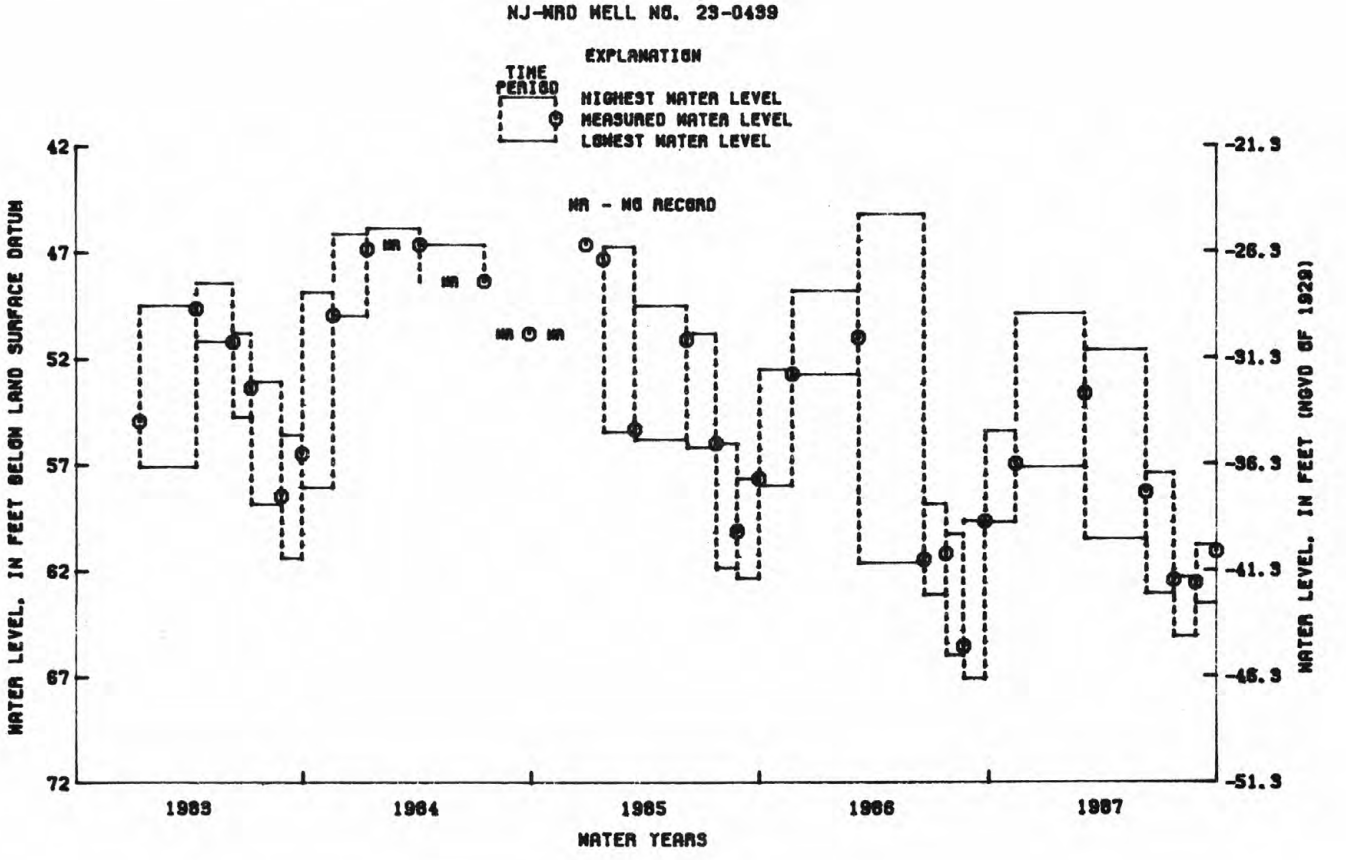


MIDDLESEX COUNTY

402633074220001. Local I.D., South River 2 Obs. NJ-WRD Well Number, 23-0439.
LOCATION.--Lat 40°26'33", long 74°22'00", Hydrologic Unit 02030105, at the corner of Whitehead Avenue and Anne Street, South River.
Owner: South River Utilities.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 126 ft, screened 121 to 126 ft.
INSTRUMENTATION.--Water-level extremes recorder, January 1977 to current year. Water-level recorder, January 1968 to August 1975.
DATUM.--Land-surface datum is 20.69 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 2.55 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Water quality data for 1987 is published elsewhere in this report.
PERIOD OF RECORD.--January 1968 to August 1975, January 1977 to September 1987 (discontinued). Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.37 ft below land-surface datum, Jan. 30, 1968; lowest, 73.64 ft below land-surface datum, between Aug. 25 and Oct. 16, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1986 TO NOV. 13, 1986	55.41	59.74	NOV. 13, 1986	56.96
NOV. 13, 1986 TO MAR. 3, 1987	49.88	57.13	MAR. 3, 1987	53.65
MAR. 3, 1987 TO JUNE 9, 1987	51.60	60.53	JUNE 9, 1987	58.33
JUNE 9, 1987 TO JULY 24, 1987	57.42	63.10	JULY 24, 1987	62.45
JULY 24, 1987 TO AUG. 28, 1987	62.32	65.13	AUG. 28, 1987	62.58
AUG. 28, 1987 TO SEPT. 30, 1987	60.77	63.57	SEPT. 30, 1987	61.10



MONMOUTH COUNTY

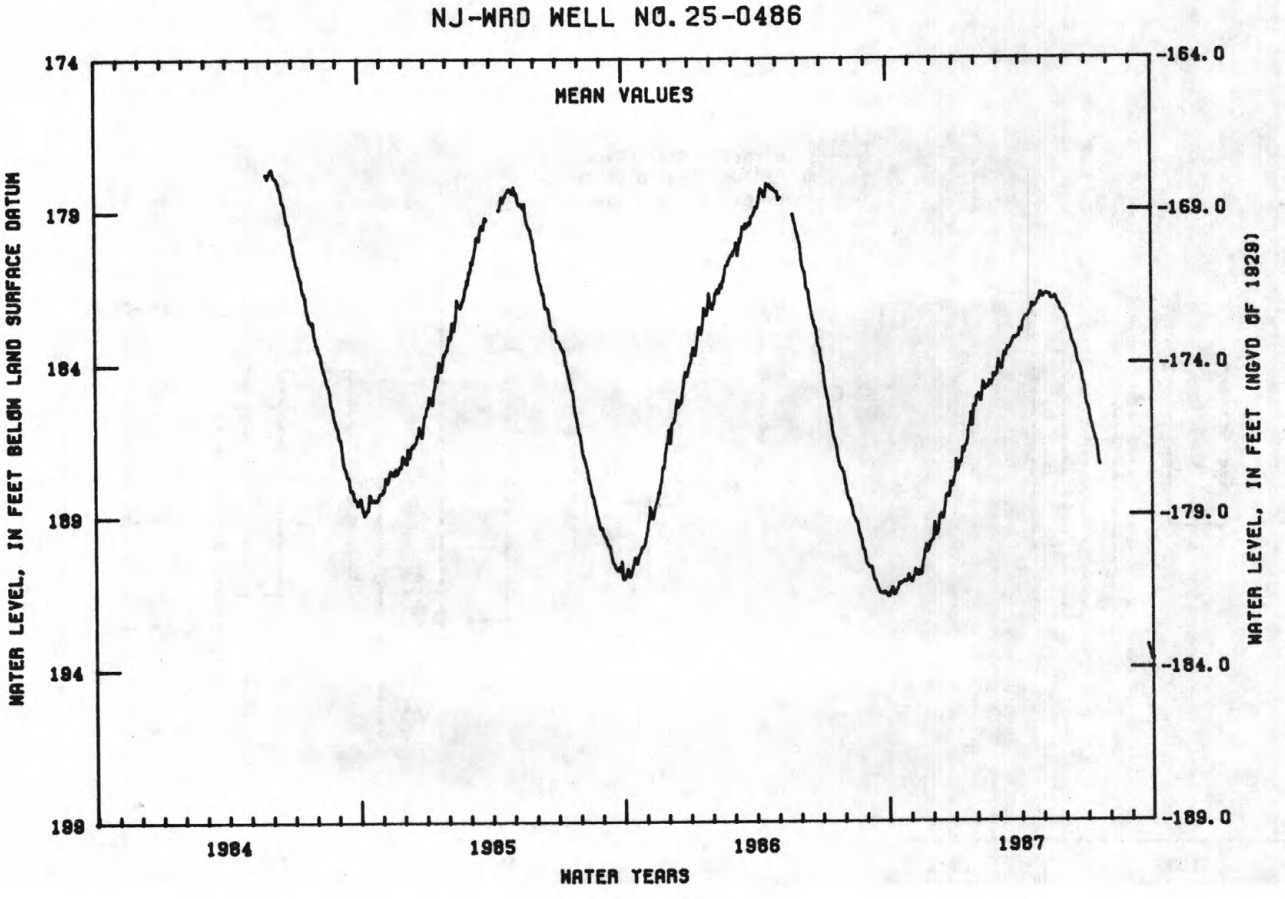
400711074020201. Local I.D., DOE - Sea Girt Obs. NJ-WRD Well Number, 25-0486.
LOCATION.--Lat 40°07'11", long 74°02'02", Hydrologic Unit 02030104, at the National Guard Camp, Sea Girt.
Owner: State of New Jersey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 988 ft, perforated casing 604 to 614 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 10 ft above National Geodedic Vertical Datum of 1929, from topographic map
Measuring point: Top edge of recorder shelf, 3.20 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Missing record from July 20 to September 21, 1987 was due to recorder malfunction.
PERIOD OF RECORD.--May 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 176.58 ft below land-surface datum, May 25, 1984; lowest, 193.87 ft below land-surface datum, Sept. 29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	191.34	190.96	189.63	187.49	185.26	184.14	182.64	181.74	182.69	185.71	---	---
10	191.52	190.95	189.02	187.11	184.69	183.65	182.47	181.77	183.14	186.28	---	---
15	191.21	190.91	189.10	186.72	184.77	183.48	182.31	181.88	183.50	186.73	---	---
20	191.18	190.12	188.31	186.06	184.74	183.37	182.17	181.85	184.04	---	---	---
25	191.17	190.12	187.91	186.09	184.46	183.21	181.95	182.11	184.52	---	---	193.50
EOM	191.16	189.80	187.68	185.10	184.36	182.88	181.68	182.35	185.23	---	---	193.70
MEAN	191.28	190.52	188.77	186.52	184.76	183.56	182.29	181.94	183.64	186.28	---	---

WATER YEAR 1987 -- HIGH 181.57 APR 29,30 LOW 193.87 SEP 29

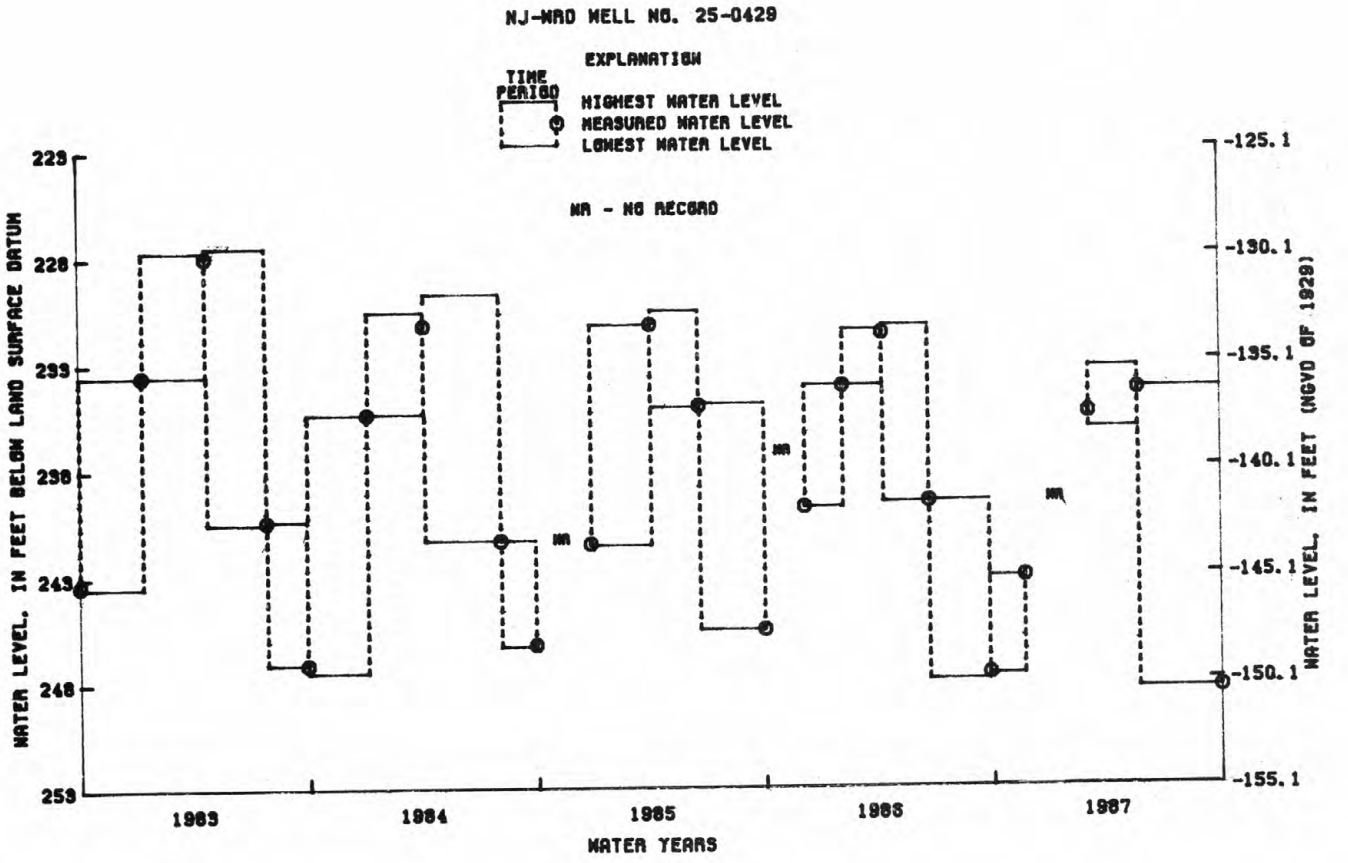


MONMOUTH COUNTY

400832074082101. Local I.D., Allaire State Park C Obs. NJ-WRD Well Number, 25-0429.
LOCATION.--Lat 40°08'34", long 74°08'34", Hydrologic Unit 02040301, about 1.3 mi southeast of Lower Squankum, in Allaire State Park, Wall Township.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 715 ft, screened 623 to 633 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, January 1964 to July 1975.
DATUM.--Land-surface datum is 97.93 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.64 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to July 1975, February 1977 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 141.05 ft below land-surface datum, Apr. 8, 1964; lowest, 248.40 ft below land-surface datum, between May 21 and Sept. 30, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1986 TO NOV. 21, 1986	243.07	247.70	NOV. 21, 1986	243.07
NOV. 21, 1986 TO MAR. 3, 1987	---	---	MAR. 3, 1987	235.47
MAR. 3, 1987 TO MAY 21, 1987	233.29	236.20	MAY 21, 1987	234.39
MAY 21, 1987 TO SEPT. 30, 1987	234.32	248.40	SEPT. 30, 1987	248.40



MONMOUTH COUNTY

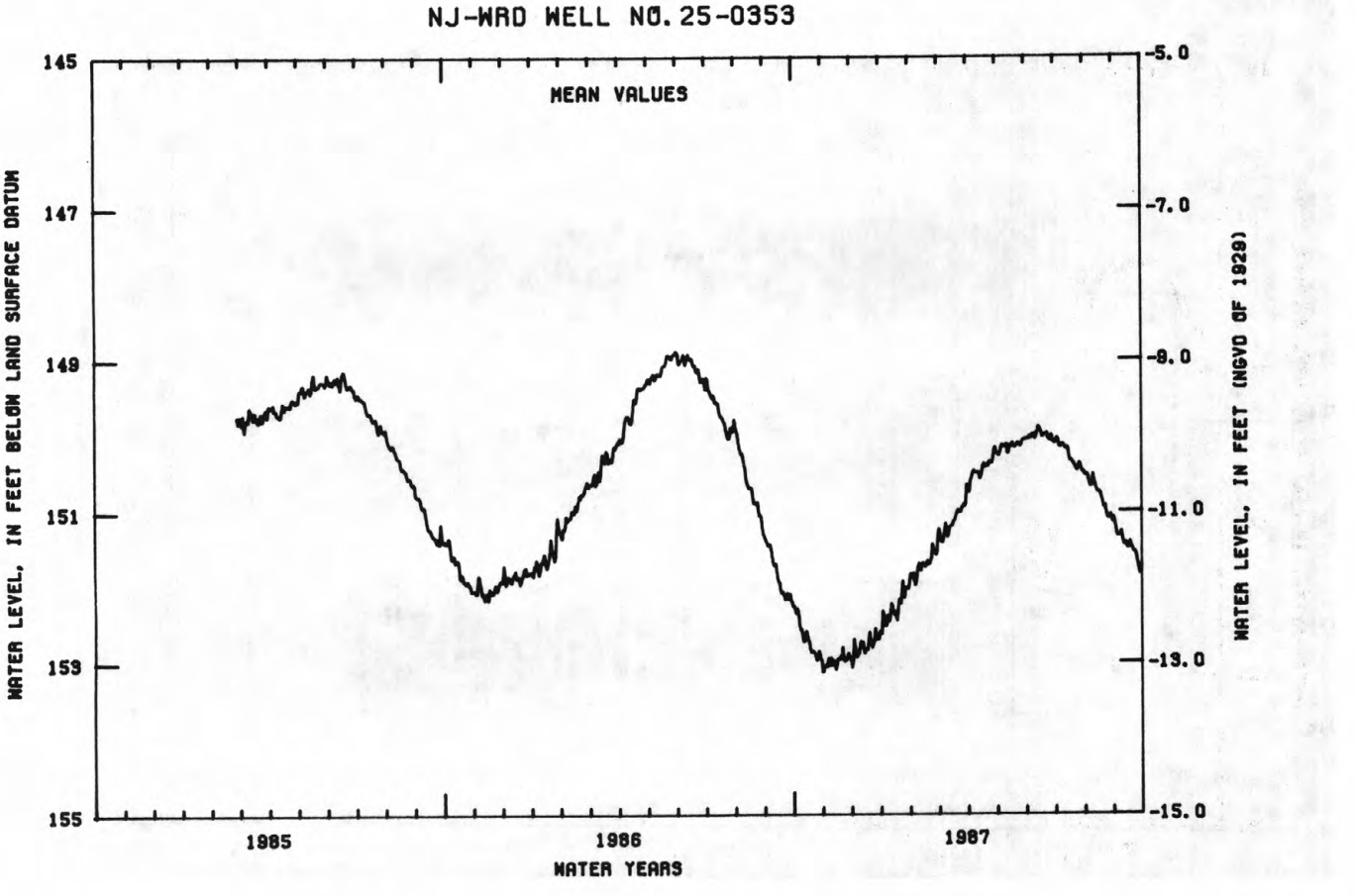
401542074053001. Local I.D., Ft. Monmouth 1-NCO. NJ-WRD Well Number, 25-0353.
LOCATION.--Lat 40°15'42", long 74°05'30", Hydrologic Unit 02030104, at Training Center, Wyckoff Rd. and Wayside Rd. New Shrewsbury Borough.
Owner: U.S. Army.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 327 ft, screened 321 to 327 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land surface datum is 140 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 1.50 ft above land surface datum.
PERIOD OF RECORD.--February 1985 to current year. Records for 1985 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PREOID OF RECORD.--Highest water level 148.88 ft below land surface datum, May 31-Jun. 2, 1985; lowest, 153.15 ft below land surface datum Oct. 31, Nov. 1, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	152.30	153.05	152.88	152.51	151.98	151.41	150.57	150.23	150.01	150.08	150.55	151.33
10	152.65	153.03	152.71	152.36	151.77	151.28	150.49	150.13	149.99	150.13	150.51	151.35
15	152.64	153.02	152.82	152.32	151.72	151.19	150.55	150.13	149.90	150.18	150.75	151.48
20	152.85	152.95	152.70	152.19	151.70	151.03	150.42	150.16	149.99	150.37	150.88	151.48
25	152.97	152.97	152.54	152.14	151.53	151.00	150.35	150.13	150.06	150.47	151.08	151.62
EOM	153.12	152.97	152.61	151.82	151.52	150.65	150.16	150.05	150.10	150.48	151.14	151.71
MEAN	152.69	152.97	152.76	152.24	151.70	151.13	150.46	150.15	150.01	150.27	150.79	151.45

WATER YEAR 1987 -- MEAN 151.39 HIGH 149.89 JUN 13-15 LOW 153.15 OCT 31,NOV 1



MONMOUTH COUNTY

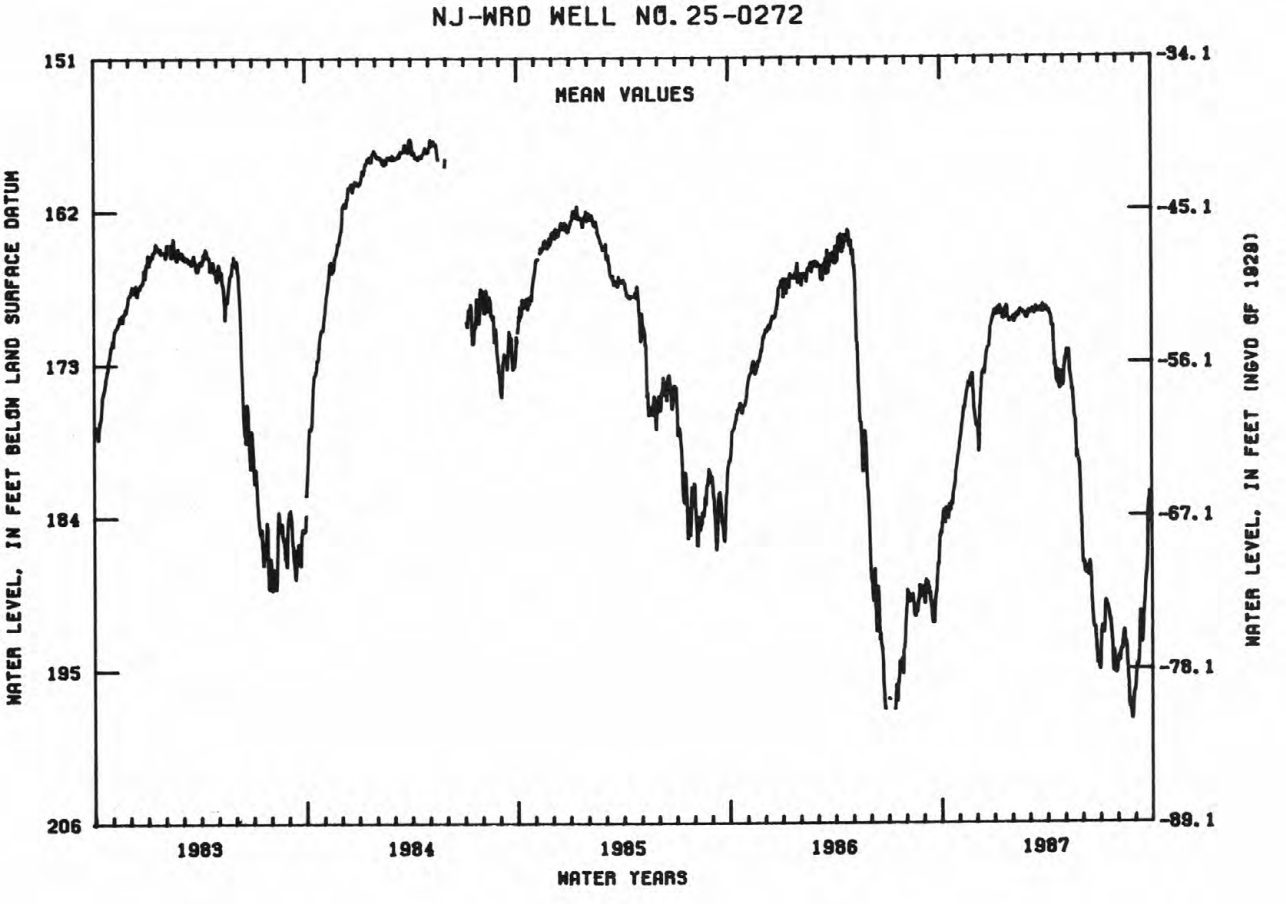
402208074145201. Local I.D., Marlboro 1 Obs. NJ-WRD Well Number, 25-0272.
LOCATION.--Lat 40°22'08", long 74°14'52", Hydrologic Unit 02030104, on the west side of New Jersey Route 79, 0.9 mi south of Morganville.
Owner: Marlboro Township Municipal Utilities Authority.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 680 ft, screened 670 to 680 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 116.93 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.50 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--January 1973 to July 1975, March 1977 to current year. Records for 1973 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 144.06 ft below land-surface datum, Apr. 4, 1973; lowest, 198.86 ft below land-surface datum, Aug. 26, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	183.49	177.69	179.39	169.51	169.98	169.38	169.20	172.22	187.40	191.87	194.40	194.74
10	183.80	176.33	174.11	169.09	169.47	169.35	170.41	172.43	187.61	190.38	192.90	191.26
15	183.12	174.86	173.79	169.49	169.12	169.03	173.23	175.02	187.71	190.46	193.19	190.96
20	183.18	174.26	171.93	169.07	169.48	169.33	174.47	177.01	191.81	191.38	195.91	188.18
25	181.55	174.71	170.41	169.84	169.79	169.02	174.46	179.90	193.47	195.18	198.40	182.96
EOM	179.41	177.28	169.64	169.92	169.61	168.95	174.40	184.33	194.59	195.13	196.46	184.65
MEAN	182.78	175.91	173.41	169.45	169.57	169.22	172.15	176.16	190.02	192.53	195.05	189.51

WATER YEAR 1987 -- MEAN 179.70 HIGH 166.99 JAN 8 LOW 198.86 AUG 26



MONMOUTH COUNTY

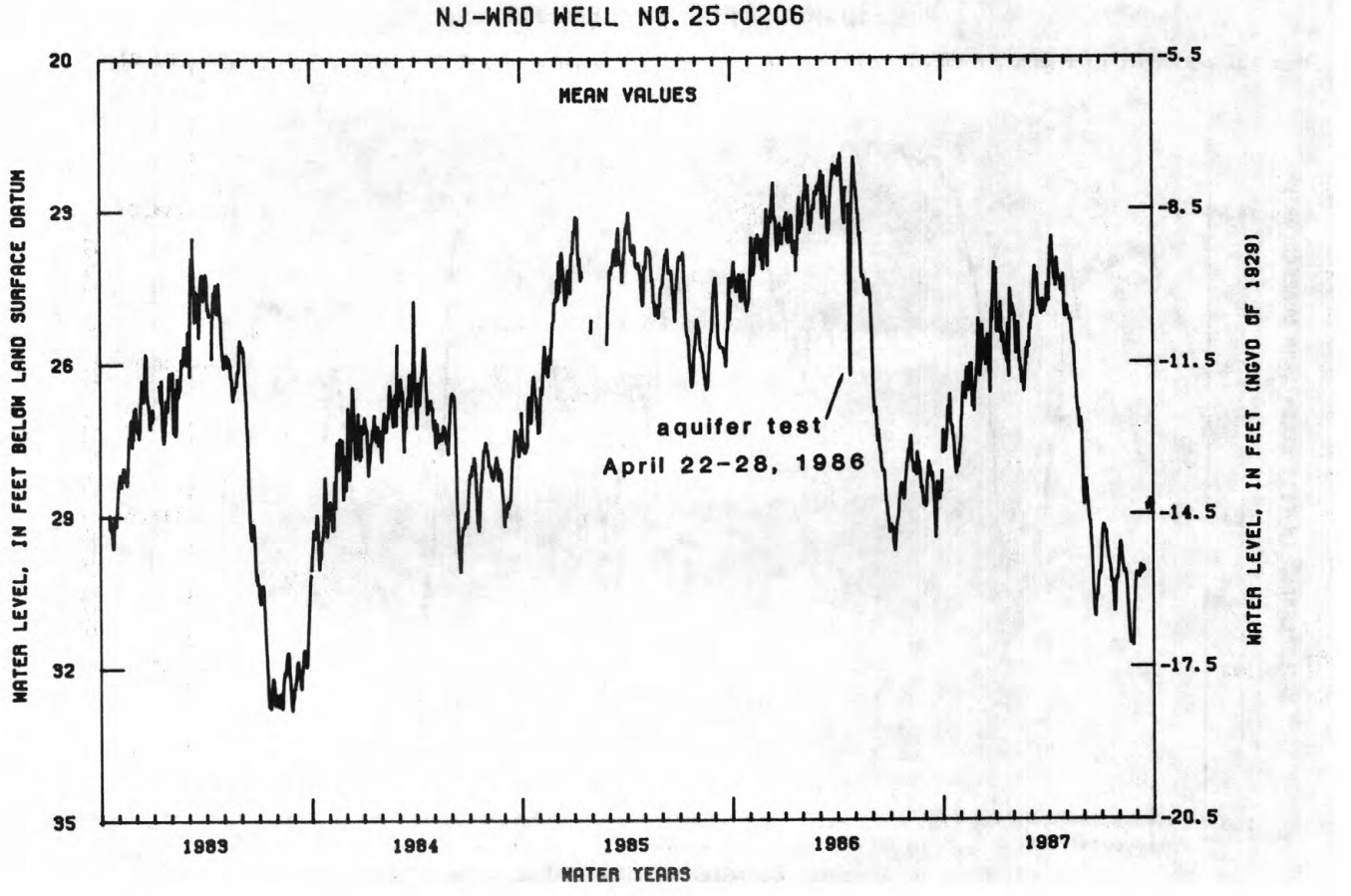
402626074114204. Local I.D., Keyport Borough WD 4 Obs. NJ-WRD Well Number, 25-0206.
LOCATION.--Lat 40°26'25", long 74°11'45", Hydrologic Unit 02030104, at the unused Myrtle Avenue Water Plant, Keyport.
Owner: Keyport Borough Water Department.
AQUIFER.--Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 249 ft, screened 225 to 249 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 14.47 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation. Water level affected by USGS aquifer test, April 22-28, 1986.
PERIOD OF RECORD.--June 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.57 ft below land-surface datum, Mar. 27, 1986; lowest, 34.88 ft below land-surface datum, July 22, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	27.44	26.63	26.27	24.98	25.81	24.98	24.09	24.90	28.42	29.29	29.55	30.24
10	27.06	26.72	25.61	24.81	25.53	24.11	23.95	25.19	28.84	29.31	30.07	30.17
15	27.05	26.55	26.04	25.56	26.41	24.57	24.51	25.60	29.53	29.85	30.27	30.12
20	27.46	26.00	25.83	25.94	26.50	24.99	24.32	26.45	30.88	30.33	31.28	28.92
25	28.19	26.96	24.93	25.51	25.76	25.01	24.37	27.11	30.60	30.91	31.48	28.69
EOM	27.72	26.02	24.29	24.93	25.69	24.44	25.03	27.78	30.18	30.23	30.22	28.79
MEAN	27.51	26.52	25.55	25.28	25.80	24.79	24.29	26.03	29.62	29.96	30.52	29.56

WATER YEAR 1987 -- MEAN 27.10 HIGH 22.04 JAN 2 LOW 32.77 AUG 27



MORRIS COUNTY

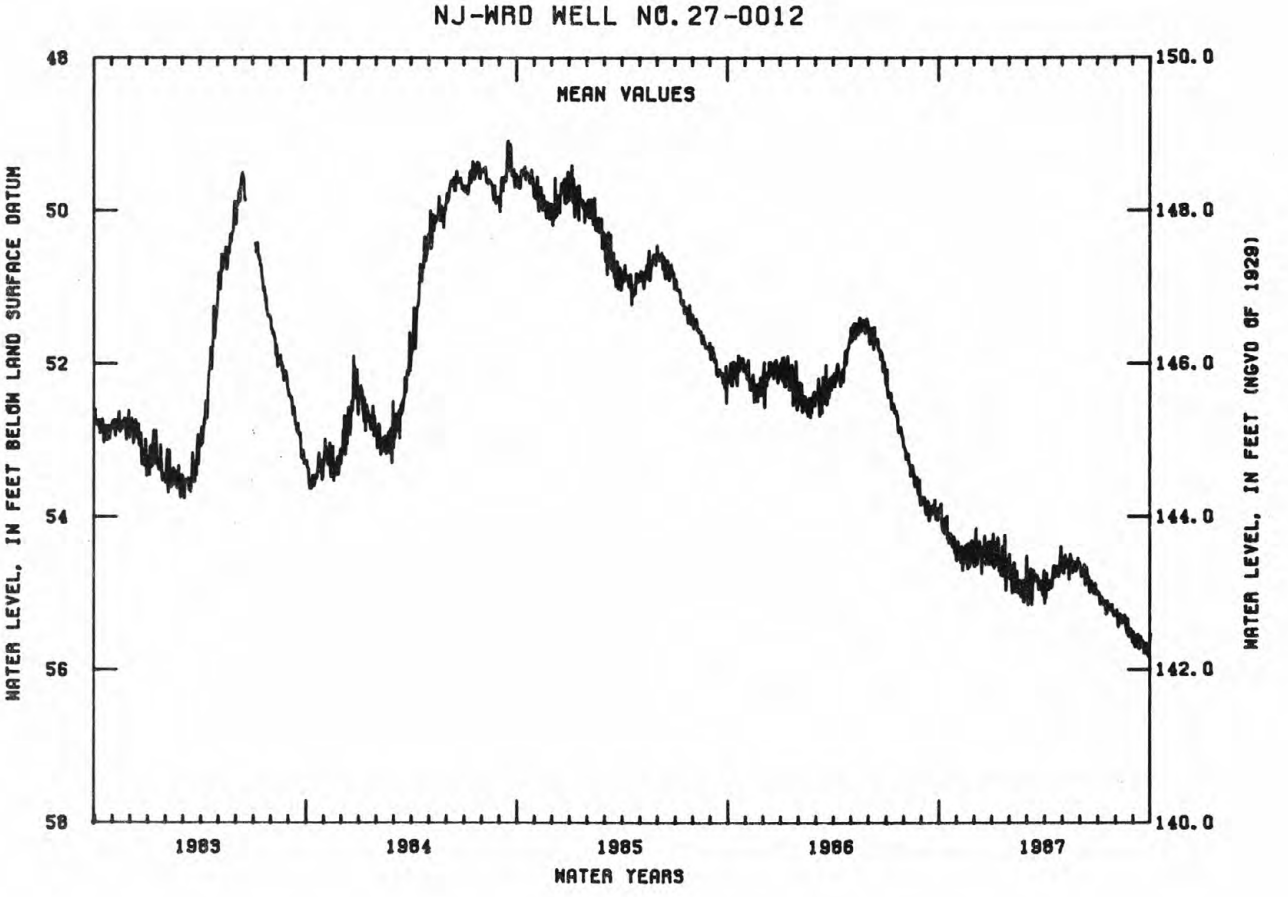
404639074230001. Local I.D., Briarwood School Obs. NJ-WRD Well Number, 27-0012.
LOCATION.--Lat 40°46'39", long 74°23'00", Hydrologic Unit 02030103, at Briarwood School near Florham Park.
Owner: U.S. Geological Survey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 110 ft, screened 100 to 110 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 198 ft above National Geodedic Vertical Datum of 1929, by altimeter.
Measuring point: Top edge of recorder shelf, 3.00 ft above land-surface datum.
PERIOD OF RECORD.--March 1967 to May 1975, April 1977 to current year. Records for 1967 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.17 ft below land-surface datum, June 3, 1968; lowest, 55.90 ft below land-surface datum, Sept. 27, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	54.07	54.47	54.63	54.59	54.99	55.02	54.94	54.58	54.71	55.15	55.38	55.64
10	54.23	54.71	54.43	54.27	54.99	55.15	54.87	54.57	54.90	55.10	55.30	55.74
15	54.29	54.37	54.46	54.56	55.00	54.84	54.73	54.49	54.79	55.28	55.31	55.71
20	54.22	54.35	54.63	54.78	54.98	54.82	54.74	54.70	54.85	55.15	55.50	55.69
25	54.36	54.61	54.32	54.78	55.08	54.91	54.79	54.72	54.94	55.20	55.54	55.81
EOM	54.58	54.63	54.63	54.69	54.90	54.70	54.72	54.61	54.97	55.27	55.51	55.54
MEAN	54.21	54.49	54.48	54.58	54.89	54.86	54.79	54.63	54.84	55.16	55.41	55.68

WATER YEAR 1987 -- MEAN 54.83 HIGH 53.71 JAN 22 LOW 55.90 SEP 27

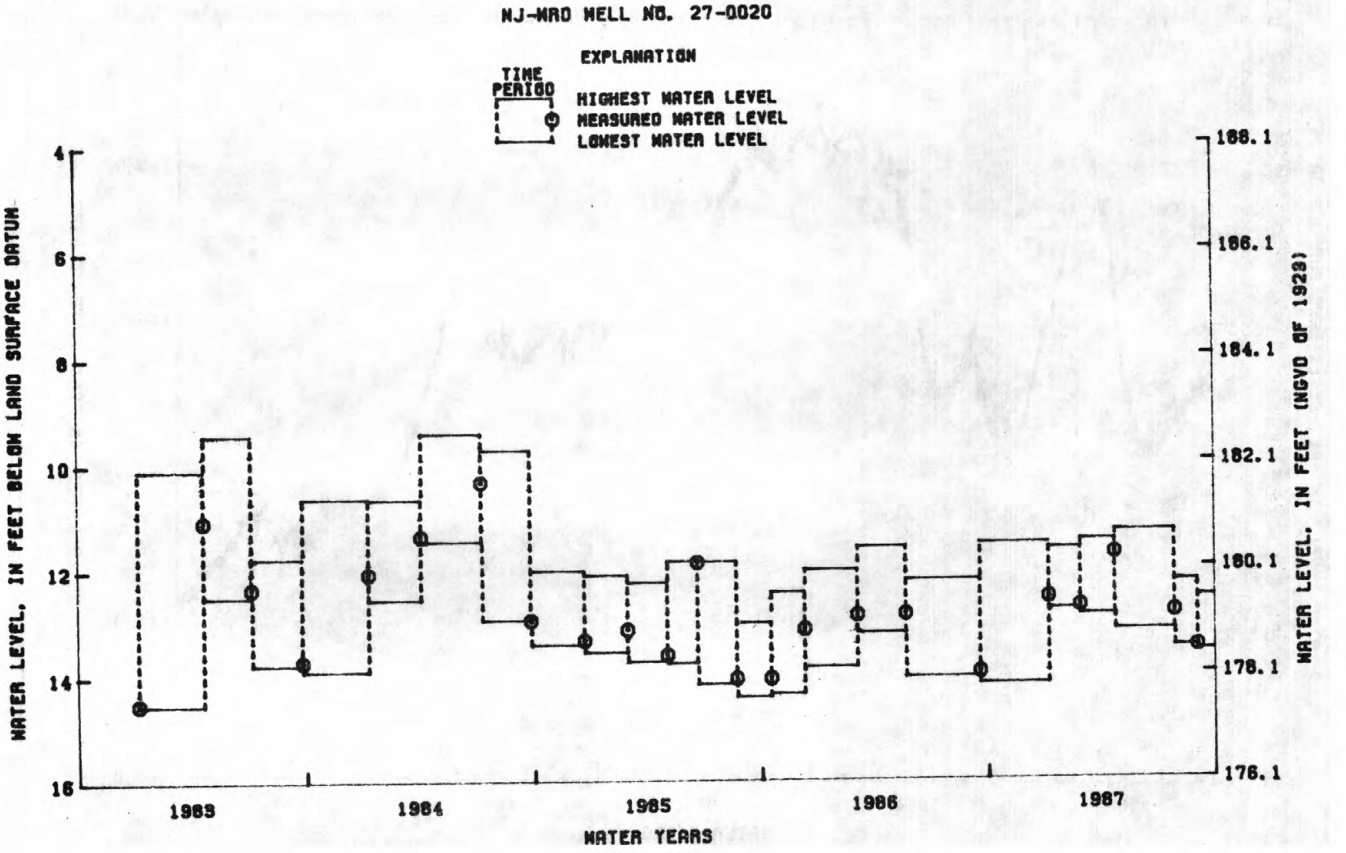


MORRIS COUNTY

405027074232301. Local I.D., Troy Meadows 1 Obs. NJ-WRD Well Number, 27-0020.
LOCATION.--Lat 40°50'27", long 74°23'23", Hydrologic Unit 02030103, on the east side of Beverwyck Road, 0.8 mi north of intersection with Troy Road, Parsippany-Troy Hills Township.
Owner: U.S. Geological Survey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 89 ft, screened 79 to 89 ft.
INSTRUMENTATION.--Water-level extremes recorder, April 1977 to current year. Water-level recorder, December 1965 to July 1970.
DATUM.--Land-surface datum is 192.07 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.32 ft above land-surface datum.
PERIOD OF RECORD.--December 1965 to July 1970, April 1977 to current year. Periodic manual measurements, December 1970 to February 1975. Records for 1965 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.00 ft below land-surface datum, Mar. 15-16, 1967 and June 15, 1968; lowest, 15.77 ft below land-surface datum, between Feb. 10 and May 31, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 18, 1986 TO JAN. 7, 1987	11.54	14.20	JAN. 7, 1987	12.58
JAN. 7, 1987 TO FEB. 27, 1987	11.64	12.80	FEB. 27, 1987	12.75
FEB. 27, 1987 TO APR. 23, 1987	11.49	12.91	APR. 23, 1987	11.75
APR. 23, 1987 TO JULY 28, 1987	11.32	13.20	JULY 28, 1987	12.86
JULY 28, 1987 TO SEPT. 3, 1987	12.27	13.52	SEPT. 3, 1987	13.52
SEPT. 3, 1987 TO OCT. 1, 1987	12.56	13.59	OCT. 1, 1987	13.54



MORRIS COUNTY

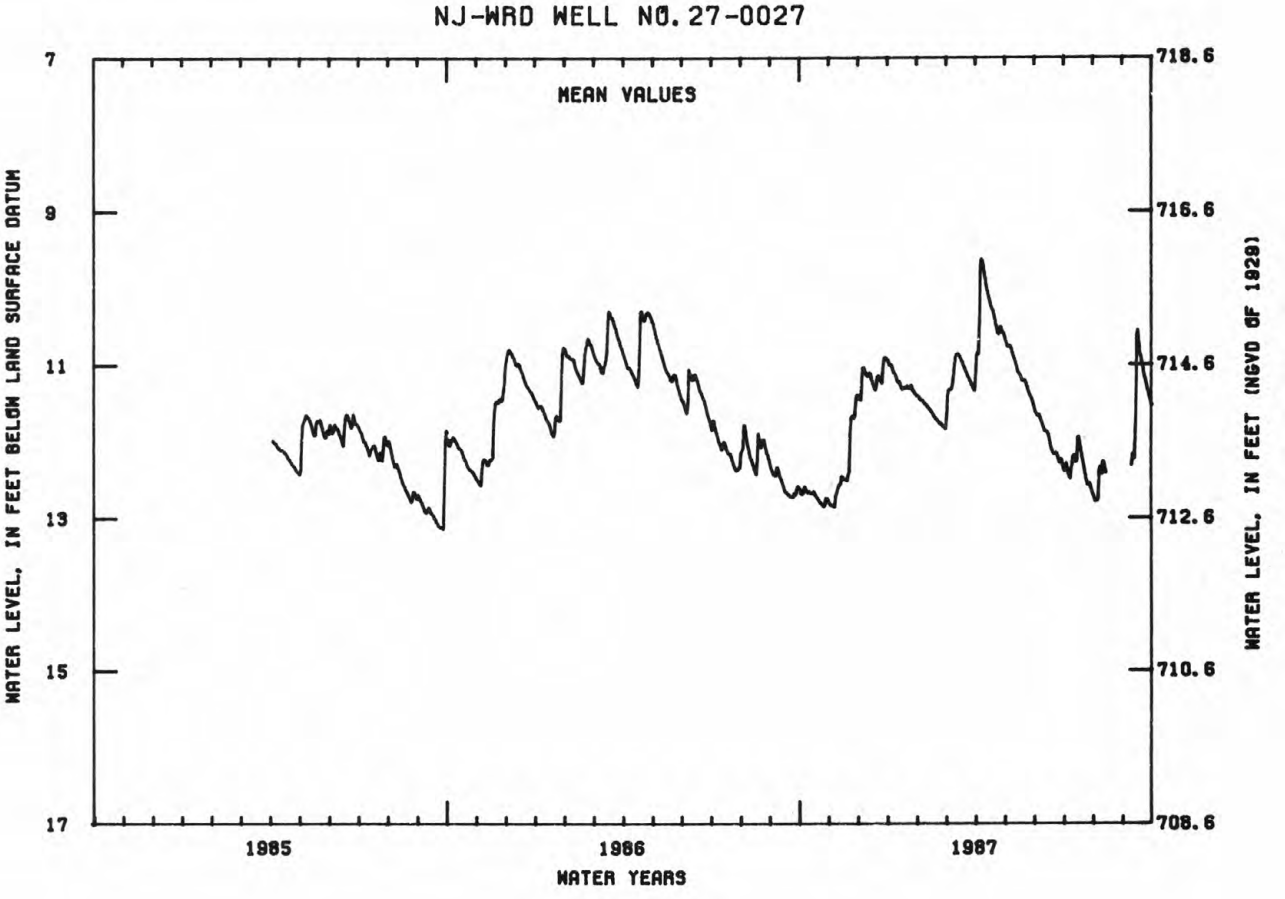
405531074361901. Local I.D., Berkshire Valley TW-9. NJ-WRD Well Number, 27-0027.
LOCATION.--Lat 40°55'31", long 74°36'19", Hydrologic Unit 02030103, about 1,000 ft east of Lower Berkshire Valley Rd. Jefferson Township.
Owner: State of New Jersey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 115 ft, screened 78 to 98 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 725.64 ft above National Geodedic Vertical Datum of 1929 (levels by Woodward-Clyde Consultants).
Measuring point: Top of 6 inch casing, 2.25 ft above land surface datum.
REMARKS.-- Missing record from August 14 to September 8, 1987 was due to recorder malfunction.
PERIOD OF RECORD.--April 1985 to current year. Periodic manual measurments November 1981 to March 1985.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.62 ft below land-surface datum, Apr. 6, 1987; lowest, 13.17 ft below land-surface datum, Sept. 25, 1985

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.59	12.86	11.04	11.11	11.50	11.33	9.72	10.76	11.66	12.43	12.75	---
10	12.66	12.58	11.12	11.24	11.57	10.90	9.88	10.94	11.85	12.20	12.27	12.17
15	12.67	12.50	11.28	11.32	11.66	10.92	10.19	11.13	11.96	11.95	---	10.55
20	12.79	12.40	11.15	11.30	11.75	11.07	10.42	11.21	12.18	12.25	---	11.03
25	12.86	11.71	11.03	11.35	11.81	11.22	10.51	11.37	12.25	12.58	---	11.33
EOM	12.82	11.43	10.99	11.43	11.85	11.12	10.65	11.58	12.36	12.72	---	11.54
MEAN	12.73	12.28	11.15	11.26	11.65	11.15	10.30	11.12	11.99	12.36	---	11.35

WATER YEAR 1987 -- HIGH 9.62 APR 6 LOW 12.88 NOV 5



MORRIS COUNTY

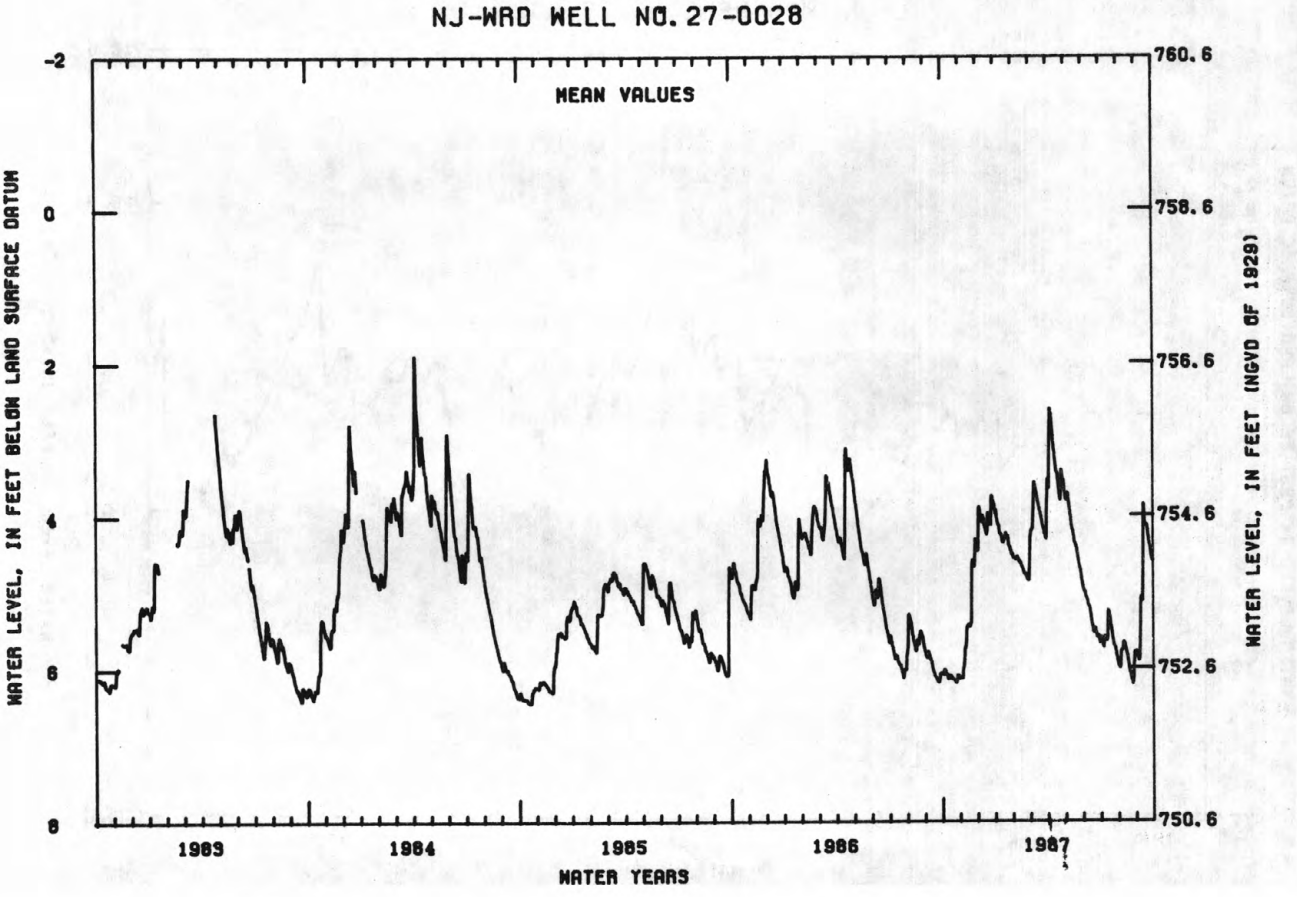
410207074270001. Local I.D., Green Pond TW5 Obs. NJ-WRD Well Number, 27-0028.
LOCATION.--Lat 41°02'07", long 74°27'00", Hydrologic Unit 02030103, about 500 ft east of Route 513 and 1.1 mi south of intersection with Route 23, Rockaway Township.
Owner: State of New Jersey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 120 ft, screened 80 to 120 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 758.56 ft above National Geodetic Vertical Datum of 1929 (levels by Woodward-Clyde Consultants).
Measuring point: Top edge of recorder shelf, 1.20 ft above land-surface datum.
PERIOD OF RECORD.--November 1981 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.35 ft below land-surface datum, Apr. 5, 1984; lowest, 6.45 ft below land-surface datum, Oct. 22, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.01	6.13	3.95	4.10	4.58	4.18	2.60	3.74	4.99	5.66	5.99	5.88
10	6.12	5.71	3.99	4.24	4.60	3.57	2.95	3.94	5.13	5.58	5.66	5.06
15	6.09	5.42	4.19	4.35	4.66	3.80	3.34	4.20	5.30	5.24	5.77	3.98
20	6.14	5.38	3.97	4.27	4.76	3.97	3.60	4.39	5.53	5.46	6.00	4.14
25	6.19	4.67	3.78	4.41	4.83	4.17	3.40	4.60	5.56	5.71	6.18	4.41
EOM	6.13	4.40	3.93	4.52	4.85	3.83	3.62	4.86	5.63	5.90	5.78	4.60
MEAN	6.11	5.31	4.03	4.27	4.67	4.01	3.32	4.23	5.30	5.60	5.90	4.80

WATER YEAR 1987 -- MEAN 4.80 HIGH 2.51 APR 4 LOW 6.23 AUG 26,27

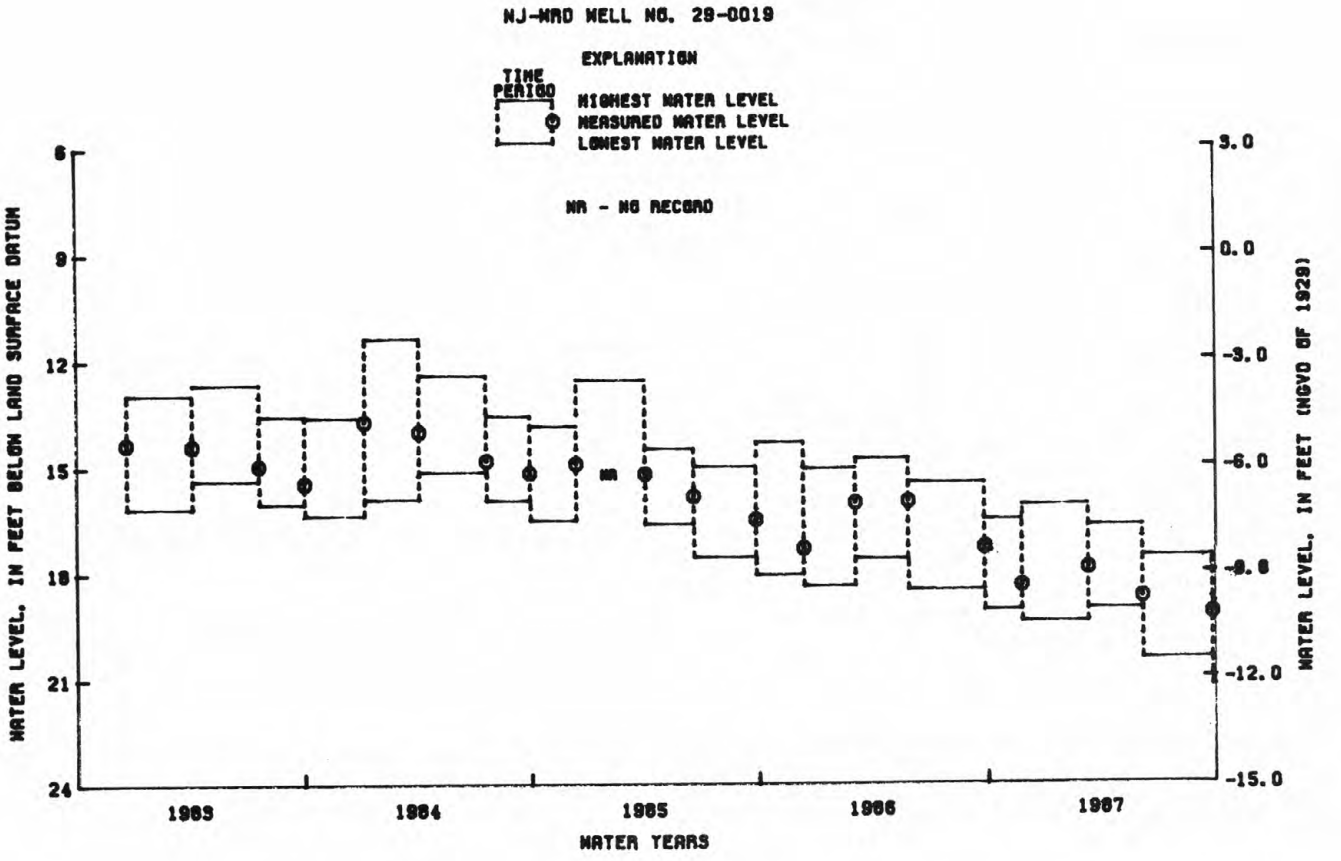


OCEAN COUNTY

394829074053503. Local I.D., Island Beach 3 Obs. NJ-WRD Well Number, 29-0019.
LOCATION.--Lat 39°48'29", long 74°05'35", Hydrologic Unit 02040301, in Island Beach State Park, about 6.6 mi south of main entrance, Berkeley Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 2,756 ft, screened 2,736 to 2,756 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, November 1968 to March 1975.
DATUM.--Land-surface datum is 9.02 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 5.11 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation.
PERIOD OF RECORD.--November 1968 to March 1975, February 1977 to current year. Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.95 ft above land-surface datum, Apr. 23, 1969; lowest, 20.45 ft below land-surface datum, between June 5 and Sept. 25, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO NOV. 25, 1986	16.48	19.07	NOV. 25, 1986	18.37
NOV. 25, 1986 TO MAR. 10, 1987	16.08	19.40	MAR. 10, 1987	17.89
MAR. 10, 1987 TO JUNE 5, 1987	16.67	19.03	JUNE 5, 1987	18.70
JUNE 5, 1987 TO SEPT. 25, 1987	17.53	20.45	SEPT. 25, 1987	19.18

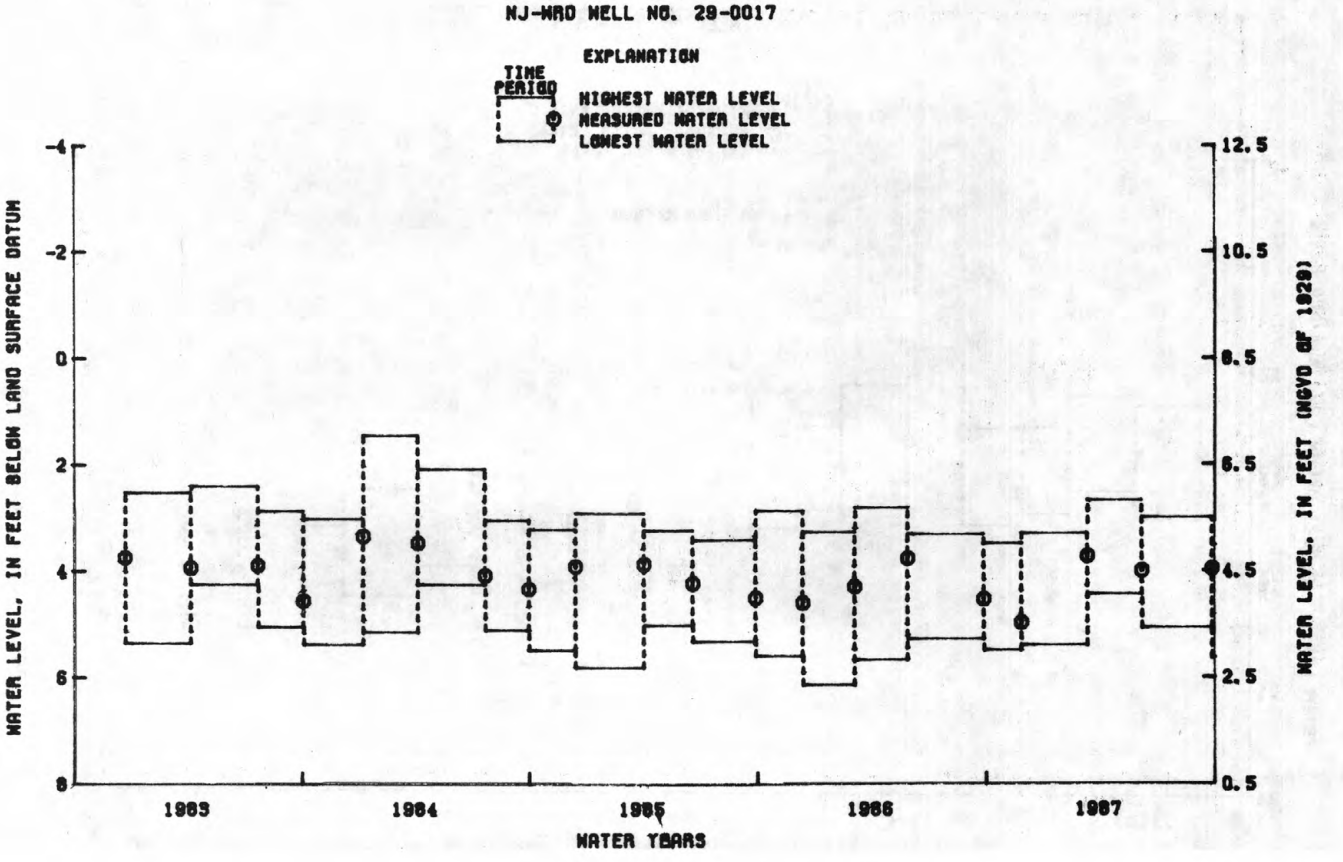


OCEAN COUNTY

394829074053501. Local I.D., Island Beach 1 Obs. NJ-WRD Well Number, 29-0017.
LOCATION.--Lat 39°48'29", long 74°05'35", Hydrologic Unit 02040301, in Island Beach State Park, about 6.6 mi south of main entrance, Berkeley Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 397 ft, screened 377 to 397 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, July 1962 to March 1975.
DATUM.--Land-surface datum is 8.50 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.40 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation.
PERIOD OF RECORD.--July 1962 to March 1975, February 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.05 ft below land-surface datum, Dec. 6, 1962; lowest, 6.14 ft below land-surface datum, between Dec. 13, 1978 and Jan. 10, 1979 and between Dec. 11, 1985 and Mar. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO NOV. 25, 1986	3.47	5.49	NOV. 25, 1986	4.97
NOV. 25, 1986 TO MAR. 10, 1987	3.29	5.40	MAR. 10, 1987	3.72
MAR. 10, 1987 TO JUNE 5, 1987	2.66	4.44	JUNE 5, 1987	4.00
JUNE 5, 1987 TO SEPT. 25, 1987	2.99	5.07	SEPT. 25, 1987	3.96



OCEAN COUNTY

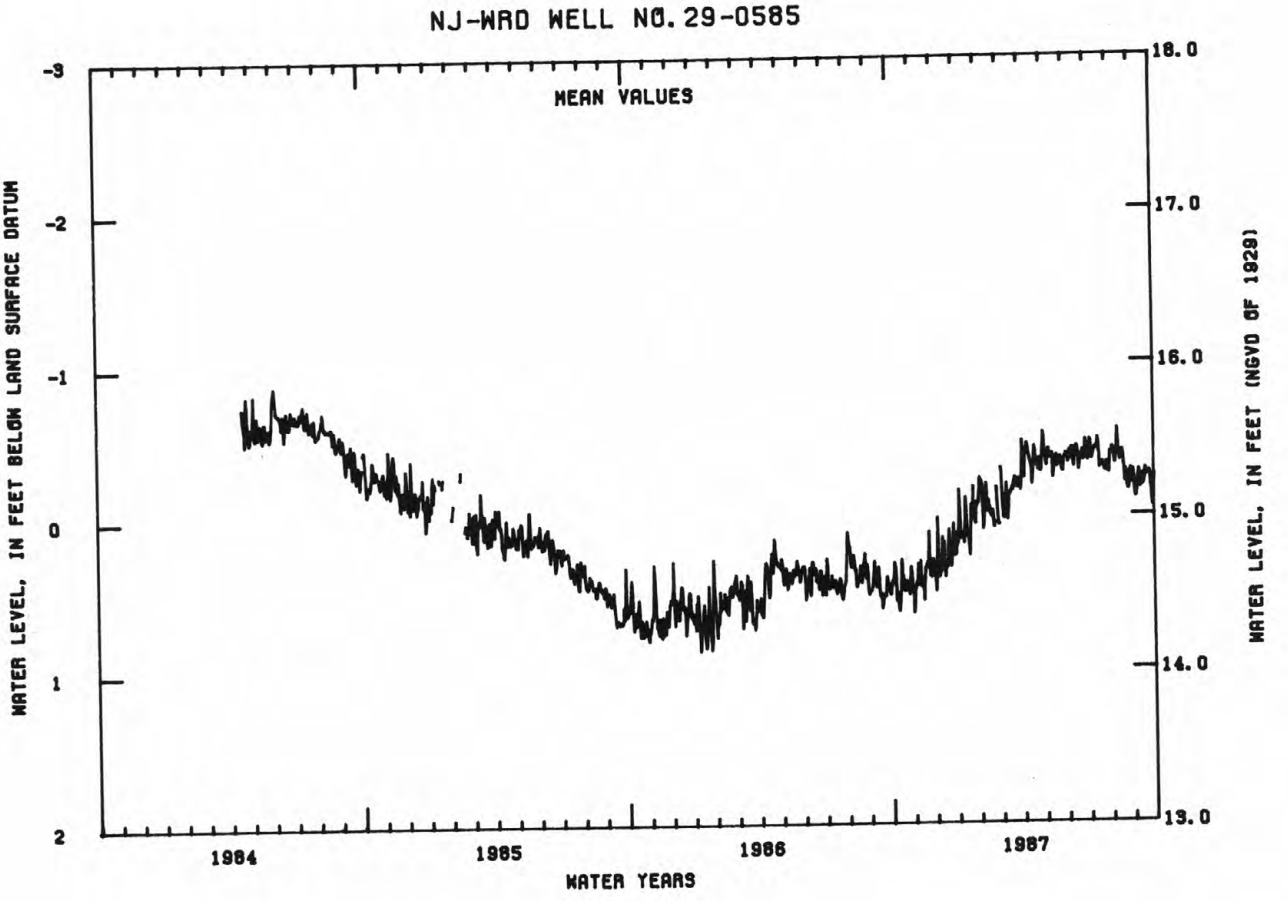
395028074104401. Local I.D., DOE-Forked River Obs. NJ-WRD Well Number, 29-0585.
LOCATION.--Lat 39°50'28", long 74°10'44", Hydrologic Unit 02040301, at the Forked River Game Farm, Forked River.
Owner: State of New Jersey.
AQUIFER.--Piney Point aquifer of Eocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 959 ft, perforated casing 412 to 422 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 15 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 3.80 ft above land-surface datum.
PERIOD OF RECORD.--April 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.83 ft above land-surface datum, June 1, 1984; lowest, 0.90 ft below land-surface datum, Jan. 24,25, 1986.

WATER LEVEL, IN FEET ABOVE (-) OR BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	0.33	0.43	0.33	0.15	0.09	0.02	-0.41	-0.36	-0.42	-0.42	-0.41	-0.11
10	0.61	0.46	0.14	0.04	-0.09	-0.03	-0.38	-0.40	-0.36	-0.44	-0.56	-0.21
15	0.37	0.44	0.33	0.10	-0.01	-0.14	-0.26	-0.38	-0.45	-0.46	-0.36	-0.19
20	0.45	0.29	0.24	0.01	0.08	-0.23	-0.32	-0.32	-0.37	-0.34	-0.28	-0.27
25	0.51	0.40	0.05	0.05	0.02	-0.18	-0.30	-0.30	-0.37	-0.28	-0.16	-0.21
EOM	0.63	0.40	0.19	-0.25	---	-0.49	-0.51	-0.40	-0.37	-0.41	-0.23	-0.26
MEAN	0.45	0.37	0.26	0.02	-0.05	-0.16	-0.36	-0.36	-0.39	-0.37	-0.34	-0.21

WATER YEAR 1987 -- MEAN -0.10 HIGH -0.64 APR 29 LOW 0.65 OCT 31, NOV 1



OCEAN COUNTY

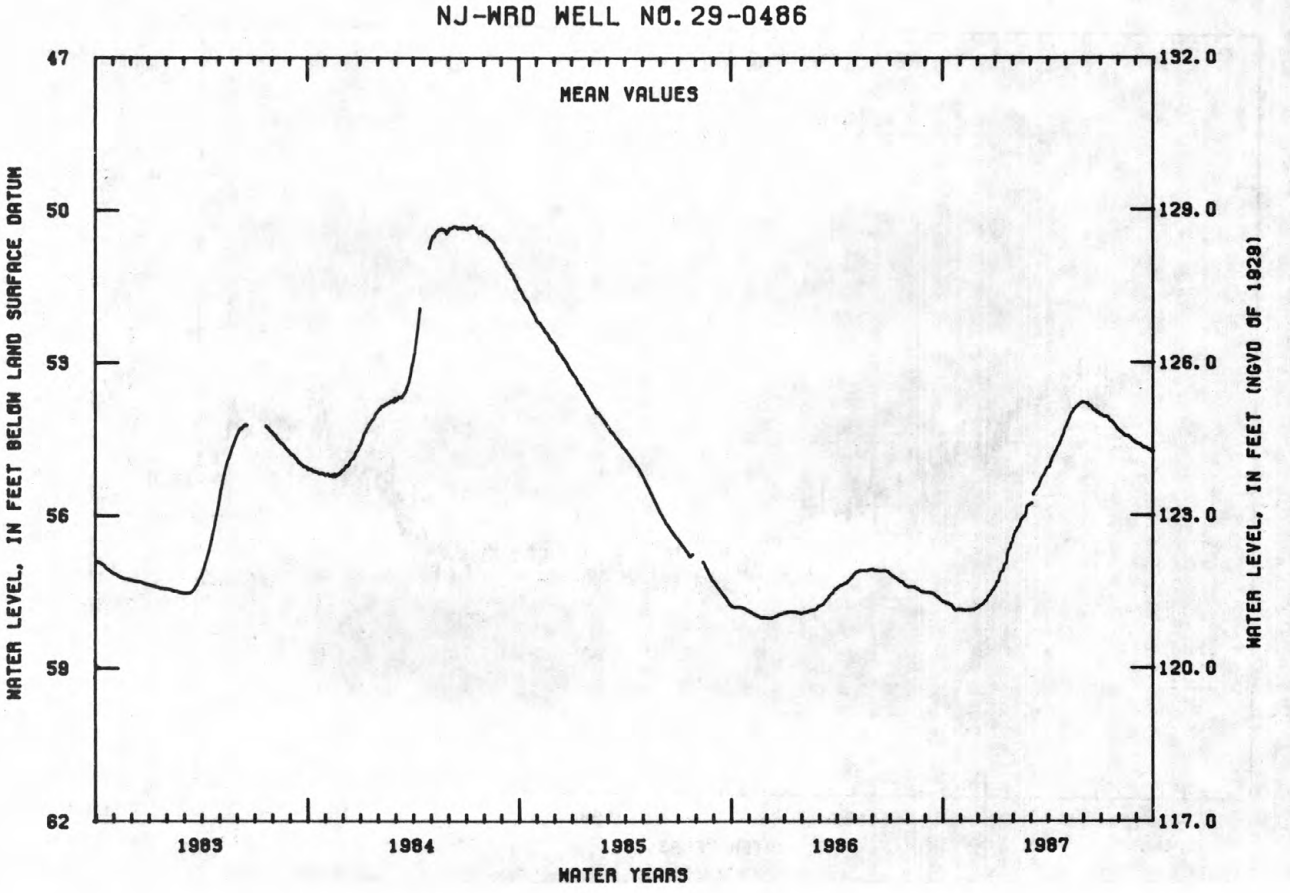
395714074223401. Local I.D., Crammer Obs. NJ-WRD Well Number, 29-0486.
LOCATION.--Lat 39°57'14", long 74°22'34", Hydrologic Unit 02040301, about 800 ft east of Central Railroad of New Jersey, Whiting.
Owner: Whiting Bible Church.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Water-table observation well, diameter 8 in, depth 69 ft, slotted steel casing, gravel packed.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 179.05 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 8-inch coupling, 0.90 ft above land-surface datum.
REMARKS.--Originally a dug well in which slotted casing was installed on March 31, 1966, and the well deepened from 60 to 69 ft.
PERIOD OF RECORD.--May 1952 to current year. Records for 1952 to 1962 are unpublished and are available in files of New Jersey District office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 47.80 ft below land-surface datum, June 9-14, 20-29, 1973; lowest, 58.02 ft below land surface datum, Nov. 21,22,29-30, Dec. 1-8, 1985. Well was dry, November 1957 to February 1958, December 1965, before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	57.72	57.86	57.77	57.28	56.28	---	54.95	54.15	53.80	54.06	54.38	54.61
10	57.74	57.87	57.72	57.10	56.17	55.51	54.81	54.01	53.84	54.07	54.42	54.65
15	57.77	57.87	57.66	56.96	56.04	55.43	54.70	53.91	53.88	54.12	54.45	54.68
20	57.85	57.86	57.56	56.73	56.00	55.27	54.59	53.86	53.94	54.17	54.48	54.71
25	57.86	57.85	57.46	56.63	55.80	55.18	54.44	53.82	53.99	54.24	54.54	54.74
EOM	57.86	57.80	57.37	56.39	55.79	55.06	54.28	53.78	54.03	54.33	54.59	54.75
MEAN	57.79	57.85	57.61	56.90	56.06	55.38	54.68	53.95	53.90	54.15	54.46	54.68

WATER YEAR 1987 -- MEAN 55.62 HIGH 53.78 MAY 29-31, JUN 1,2 LOW 57.87 OCT 21-24, NOV 3,4,6-15,23

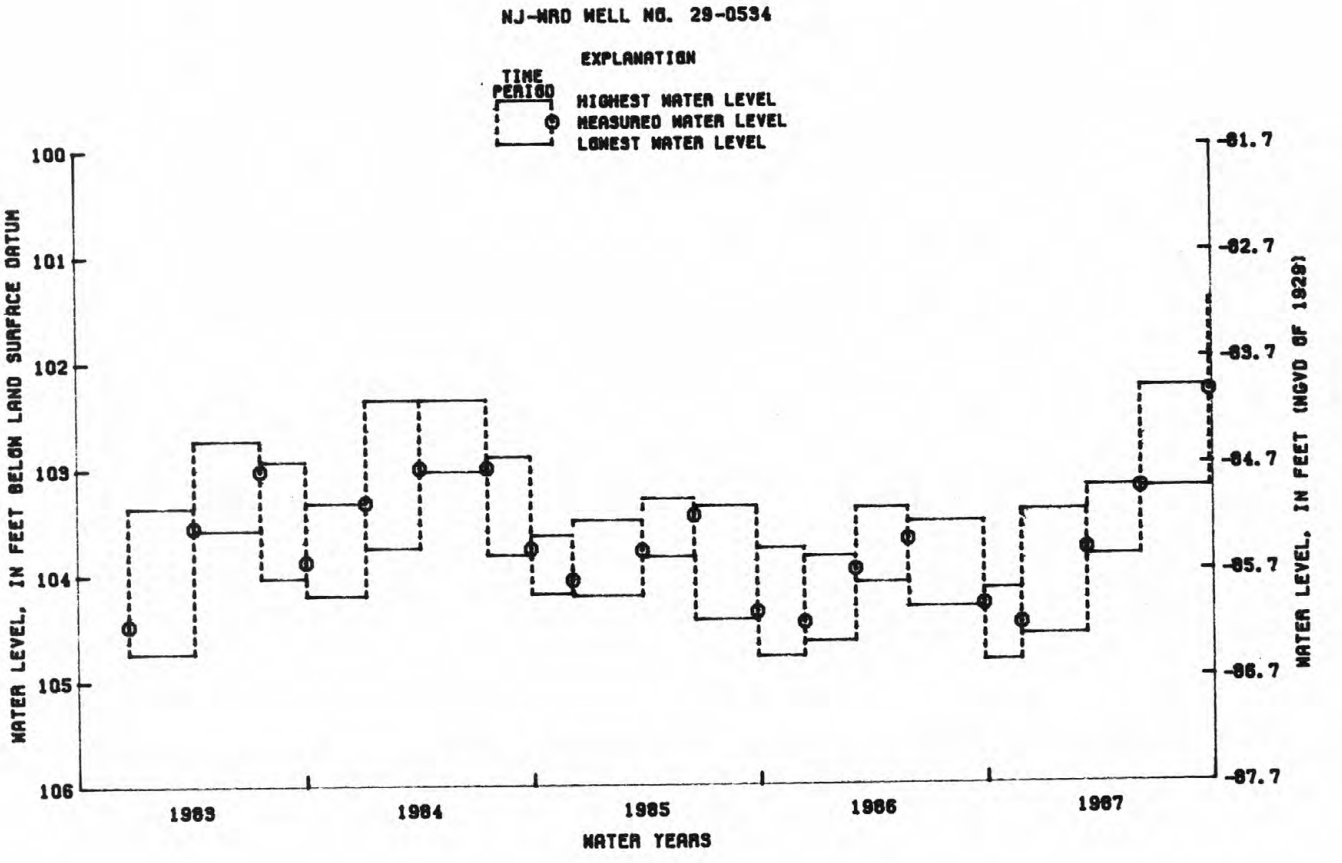


OCEAN COUNTY

395609074124001. Local I.D., Toms River TW 2 Obs. NJ-WRD Well Number, 29-0534.
LOCATION.--Lat 39°56'09", long 74°12'40", Hydrologic Unit 02040301, about 200 ft east of Double Trouble Road on the north side of Jakes Branch, South Toms River.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 1,146 ft, screened 1,080 to 1,146 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, December 1965 to March 1975.
DATUM.--Land-surface datum is 18.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.70 ft above land-surface datum.
PERIOD OF RECORD.--December 1965 to March 1975, February 1977 to current year. Records for 1965 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.37 ft below land-surface datum, May 28, 1966; lowest, 104.91 ft below land-surface datum, between Sept. 29 and Dec. 21, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO NOV. 25, 1986	104.16	104.84	NOV. 25, 1986	104.49
NOV. 25, 1986 TO MAR. 10, 1987	103.42	104.60	MAR. 10, 1987	103.79
MAR. 10, 1987 TO JUNE 5, 1987	103.20	103.85	JUNE 5, 1987	103.22
JUNE 5, 1987 TO SEPT. 25, 1987	102.27	103.22	SEPT. 25, 1987	102.32



OCEAN COUNTY

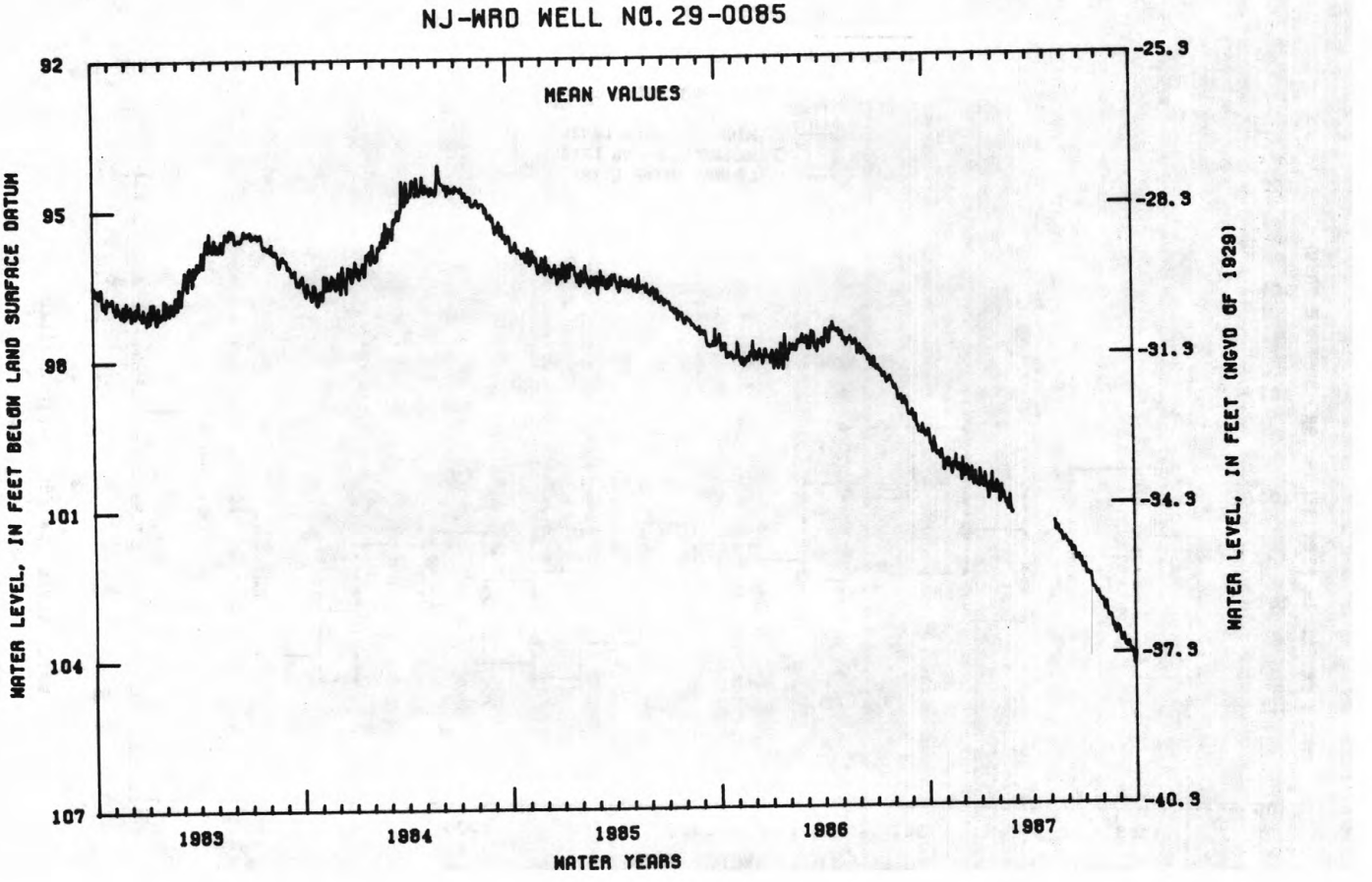
395930074142101. Local I.D., Toms River Chem 84 Obs. NJ-WRD Well Number, 29-0085.
LOCATION.--Lat 39°59'29", long 74°14'20", Hydrologic Unit 02040301, at Toms River Plant, Ciba-Geigy Corporation, Dover Township.
Owner: Ciba-Geigy Corporation.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 1,480 ft, screened 1,460 to 1,480 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 66.71 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.70 ft above land-surface datum.
REMARKS.--Missing record from March 1 to May 11, 1987 was due to recorder malfunction.
PERIOD OF RECORD.--July 1968 to July 1975, March 1977 to current year. Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.32 ft below land-surface datum, July 19, 1968 and Feb. 9, 1969; lowest, 104.26 ft below land-surface datum, Sept. 28, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	99.50	100.18	100.35	100.60	100.95	---	---	---	101.77	102.29	102.97	103.76
10	99.88	100.24	100.21	100.56	100.81	---	---	---	101.88	102.37	102.96	103.74
15	99.74	100.28	100.46	100.63	100.94	---	---	101.41	101.89	102.46	103.27	103.88
20	99.96	100.24	100.43	100.63	101.10	---	---	101.58	102.06	102.68	103.37	103.90
25	100.08	100.32	100.34	100.77	101.07	---	---	101.68	102.15	102.82	103.59	104.00
EOM	100.31	100.38	100.58	100.53	101.14	---	---	101.67	102.27	102.90	103.54	104.02
MEAN	99.85	100.21	100.43	100.60	100.89	---	---	101.57	101.96	102.56	103.26	103.85

WATER YEAR 1987 -- HIGH 99.44 OCT 4 LOW 104.26 SEP 28



OCEAN COUNTY

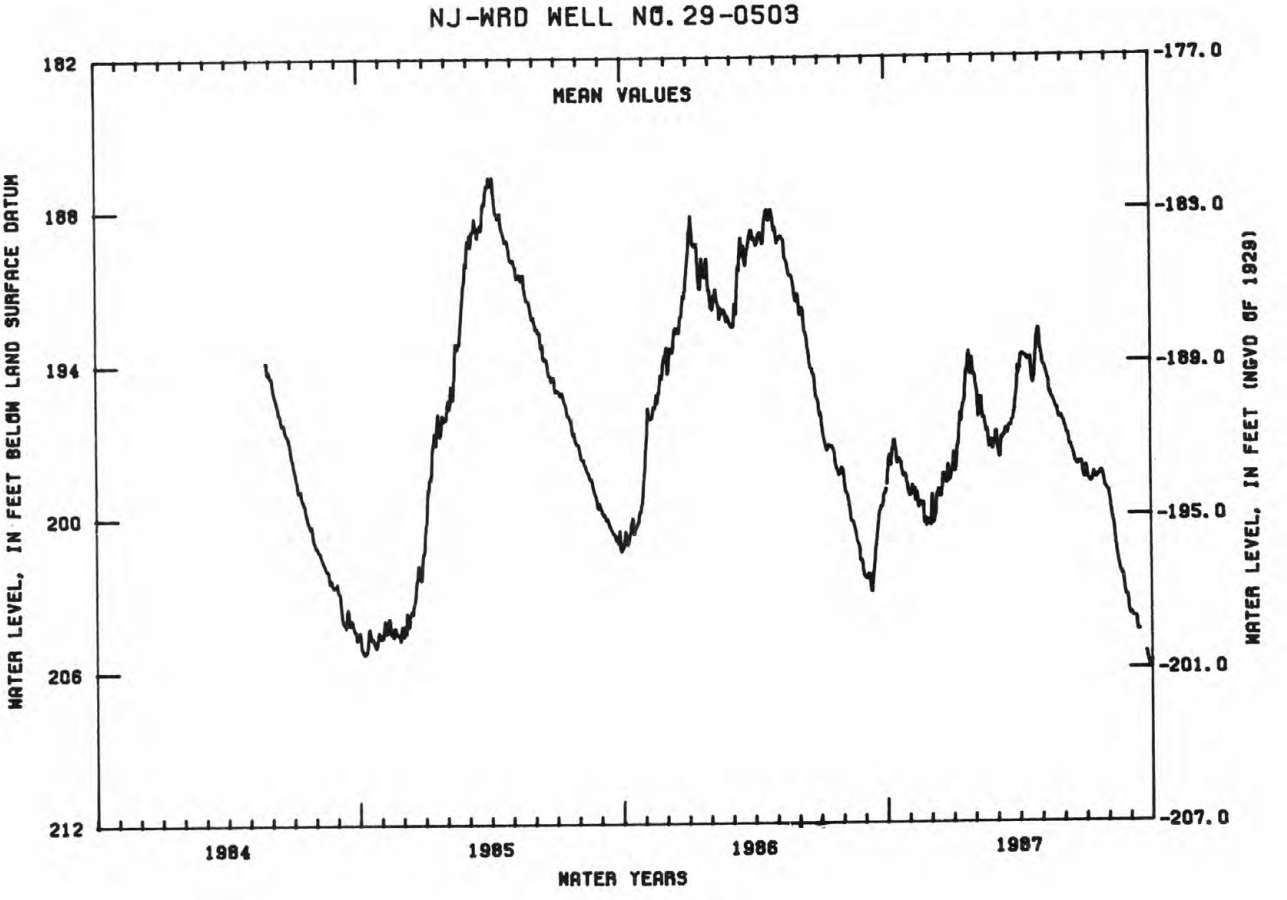
400210074031001. Local I.D., Mantoloking 6 Obs. NJ-WRD Well Number, 29-0503.
LOCATION.--Lat 40°02'10", long 74°03'10", Hydrologic Unit 02040301, at the Bay Avenue water treatment plant, Mantoloking.
Owner: New Jersey - American Water Company.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 906 ft, screened 845 to 906 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 5 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 2.40 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--May 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 185.95 ft below land-surface datum, Apr. 6, 1985; lowest, 206.36 ft below land-surface datum, Sept. 29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	197.57	199.14	200.25	198.11	196.11	197.55	193.68	194.09	196.56	198.37	199.39	203.97
10	197.27	199.39	199.08	196.41	195.78	196.99	193.76	194.50	197.16	198.69	200.28	204.34
15	197.79	199.61	199.24	195.60	196.49	196.55	193.82	195.14	197.51	198.40	201.60	---
20	197.84	199.53	198.31	194.21	197.30	196.45	194.73	195.55	197.97	198.38	202.22	---
25	198.44	200.38	197.96	194.46	197.39	196.23	193.54	195.93	197.92	198.28	202.96	205.69
EOM	199.05	200.23	198.13	194.48	197.10	194.12	193.10	196.15	198.49	198.95	203.79	205.68
MEAN	197.94	199.53	199.01	195.65	196.34	196.51	193.83	195.10	197.42	198.48	201.43	204.75

WATER YEAR 1987 -- MEAN 197.85 HIGH 192.23 APR 29 LOW 206.36 SEP 29



OCEAN COUNTY

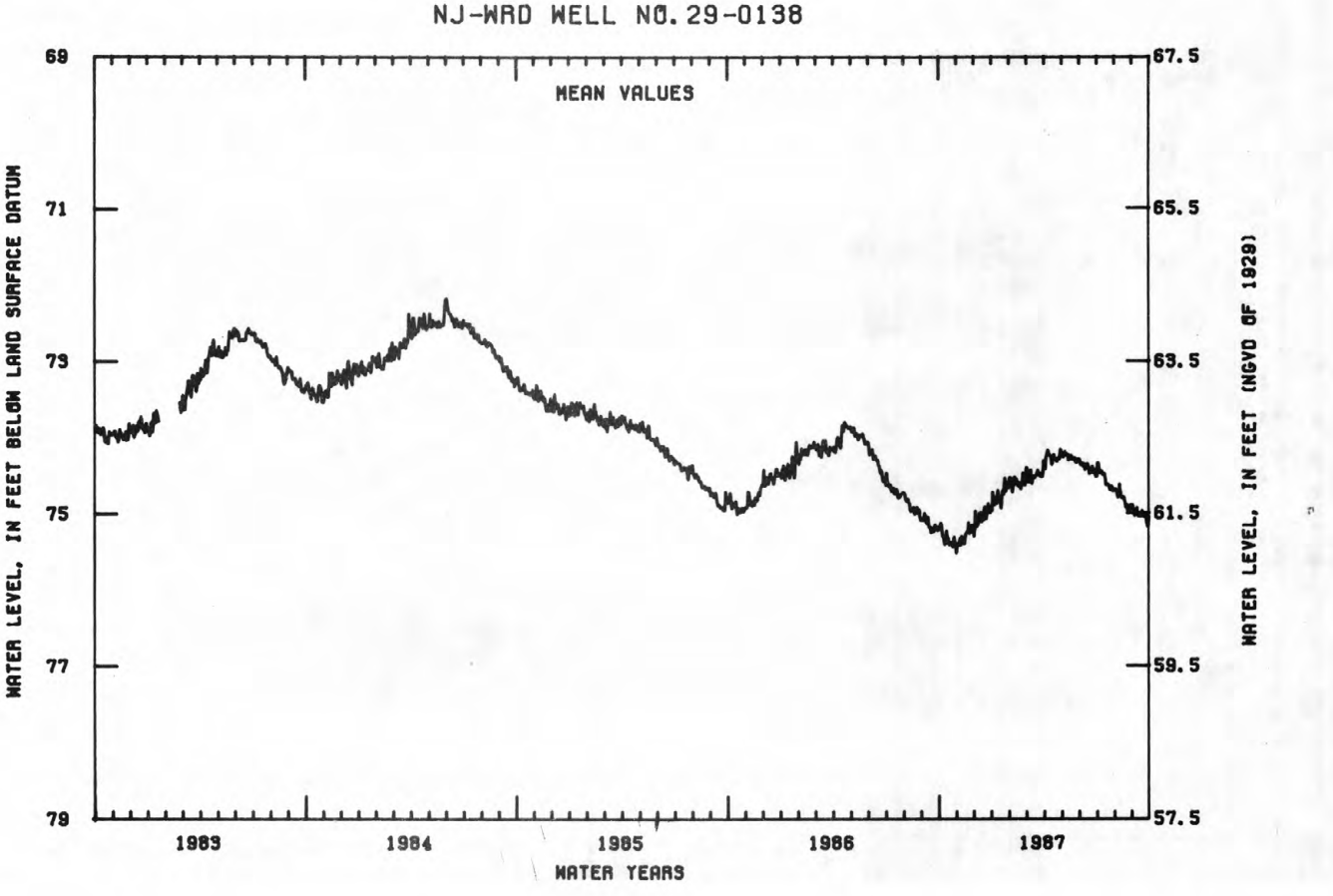
400416074270101. Local I.D., Colliers Mills TW 1 Obs. NJ-WRD Well Number, 29-0138.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 427 ft, screened 417 to 427 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 136.52 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 6 inch coupling, 2.20 ft above land-surface datum.
PERIOD OF RECORD.--February 1964 to July 1975, March 1977 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.02 ft below land-surface datum, Feb. 19, 1964; lowest, 75.55 ft below land-surface datum, Oct. 31, Nov. 1, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	75.15	75.40	75.15	74.90	74.73	74.60	74.24	74.25	74.34	74.42	74.72	75.04
10	75.39	75.40	75.00	74.79	74.61	74.56	74.24	74.22	74.40	74.46	74.62	75.00
15	75.30	75.33	75.08	74.82	74.65	74.54	74.35	74.24	74.36	74.51	74.81	75.05
20	75.39	75.23	75.00	74.74	74.69	74.46	74.30	74.30	74.47	74.64	74.88	75.04
25	75.45	75.26	74.87	74.72	74.60	74.52	74.29	74.33	74.47	74.70	74.99	75.08
EOM	75.53	75.24	74.98	74.53	74.60	74.31	74.18	74.29	74.53	74.69	74.94	75.05
MEAN	75.33	75.30	75.05	74.76	74.61	74.50	74.28	74.27	74.41	74.56	74.83	75.03

WATER YEAR 1987 -- MEAN 74.74 HIGH 74.09 APR 29 LOW 75.55 OCT 31, NOV 1

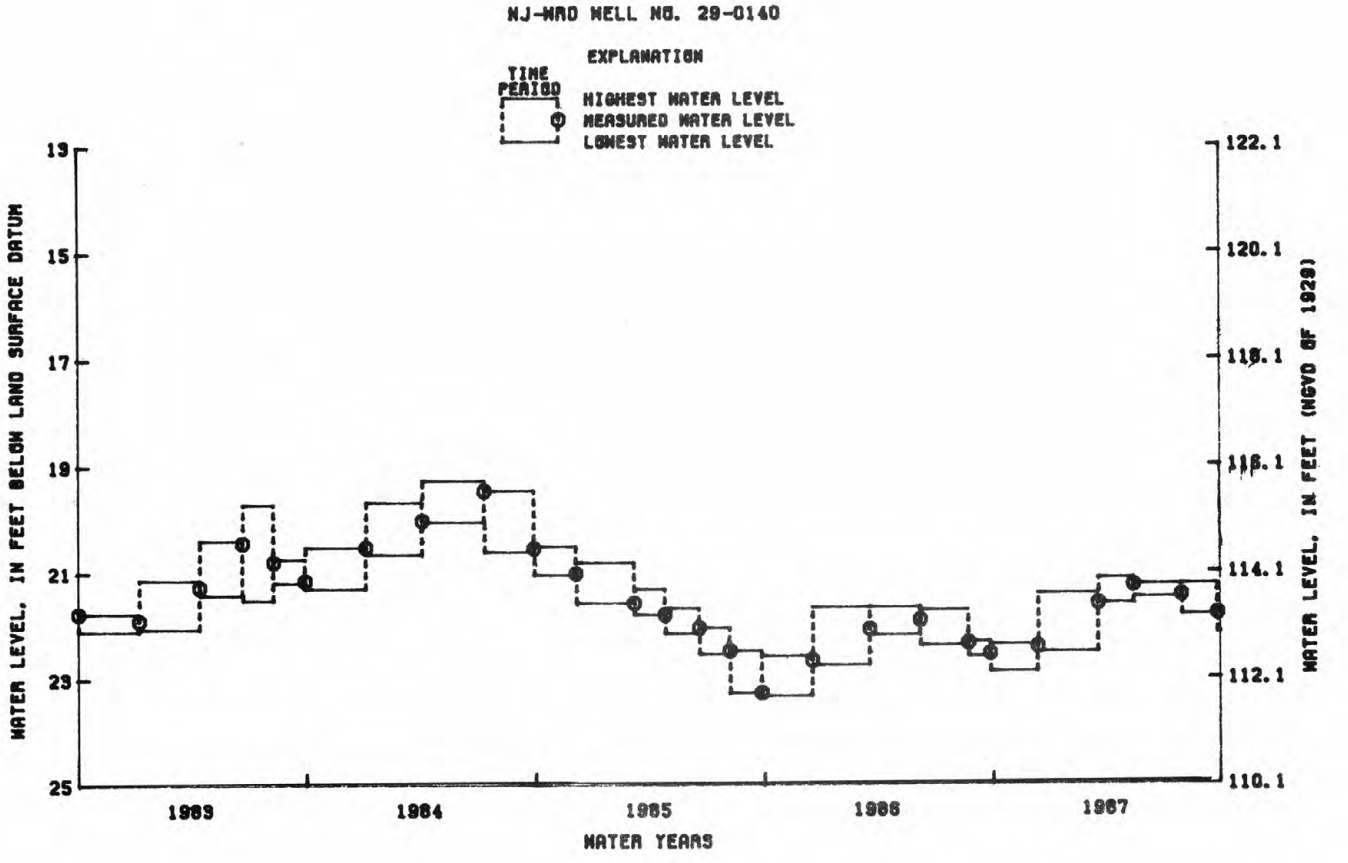


OCEAN COUNTY

400416074270103. Local I.D., Colliers Mills TW 3 Obs. NJ-WRD Well Number, 29-0140.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along Western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 270 ft, screened 257 to 267 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, January 1964 to July 1975.
DATUM.--Land-surface datum is 135.15 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.49 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to July 1975, October 1976 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.72 ft below land-surface datum, May 9, 1964; lowest, 23.32 ft below land-surface datum, between Sept. 26 and Dec. 16, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO DEC. 11, 1986	22.35	22.87	DEC. 11, 1986	22.40
DEC. 11, 1986 TO MAR. 17, 1987	21.40	22.50	MAR. 17, 1987	21.59
MAR. 17, 1987 TO MAY 13, 1987	21.11	21.59	MAY 13, 1987	21.25
MAY 13, 1987 TO JULY 29, 1987	21.23	21.48	JULY, 29, 1987	21.44
JULY 29, 1987 TO SEPT. 25, 1987	21.22	21.81	SEPT. 25, 1987	21.79

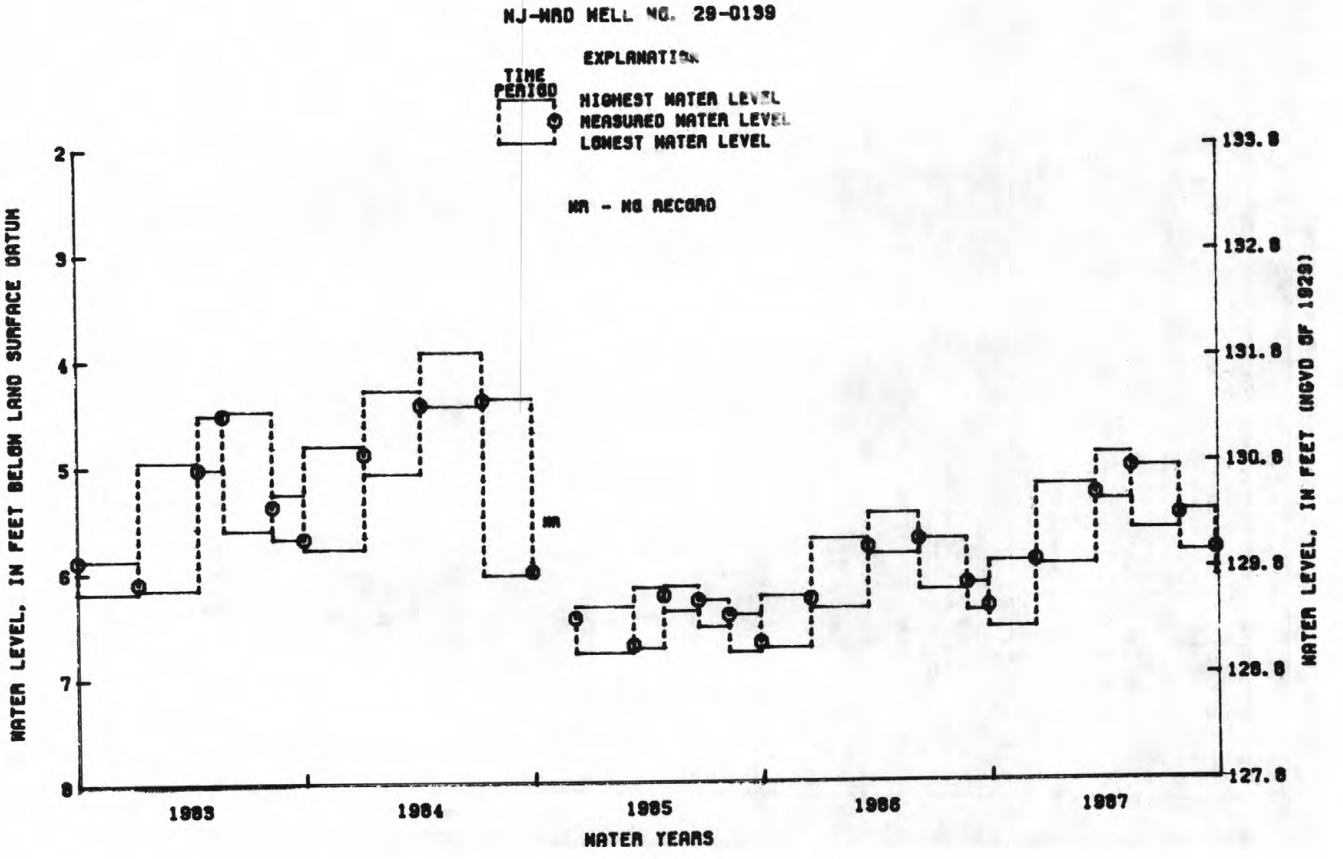


OCEAN COUNTY

400416074270102. Local I.D., Colliers Mills TW 2 Obs. NJ-WRD Well Number, 29-0139.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Vincentown Formation of Paleocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 171 ft, screened 161 to 171 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, January 196 to August 1975.
DATUM.--Land-surface datum is 135.76 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.10 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to August 1975, October 1976 to current year. Records for 1964 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.92 ft below land-surface datum, between Apr. 3 and July 11 1984; lowest, 6.77 ft below land-surface datum, between Dec. 4, 1984 and Mar. 6, 1985 and between Aug. 6 and Sept. 26, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO DEC. 11, 1986	5.92	6.55	DEC. 11, 1986	5.92
DEC. 11, 1986 TO MAR. 17, 1987	5.20	5.96	MAR. 17, 1987	5.29
MAR. 17, 1987 TO MAY 13, 1987	4.91	5.35	MAY 13, 1987	5.04
MAY 13, 1987 TO JULY 29, 1987	5.04	5.63	JULY 29, 1987	5.49
JULY 29, 1987 TO SEPT. 25, 1987	5.45	5.84	SEPT. 25, 1987	5.82

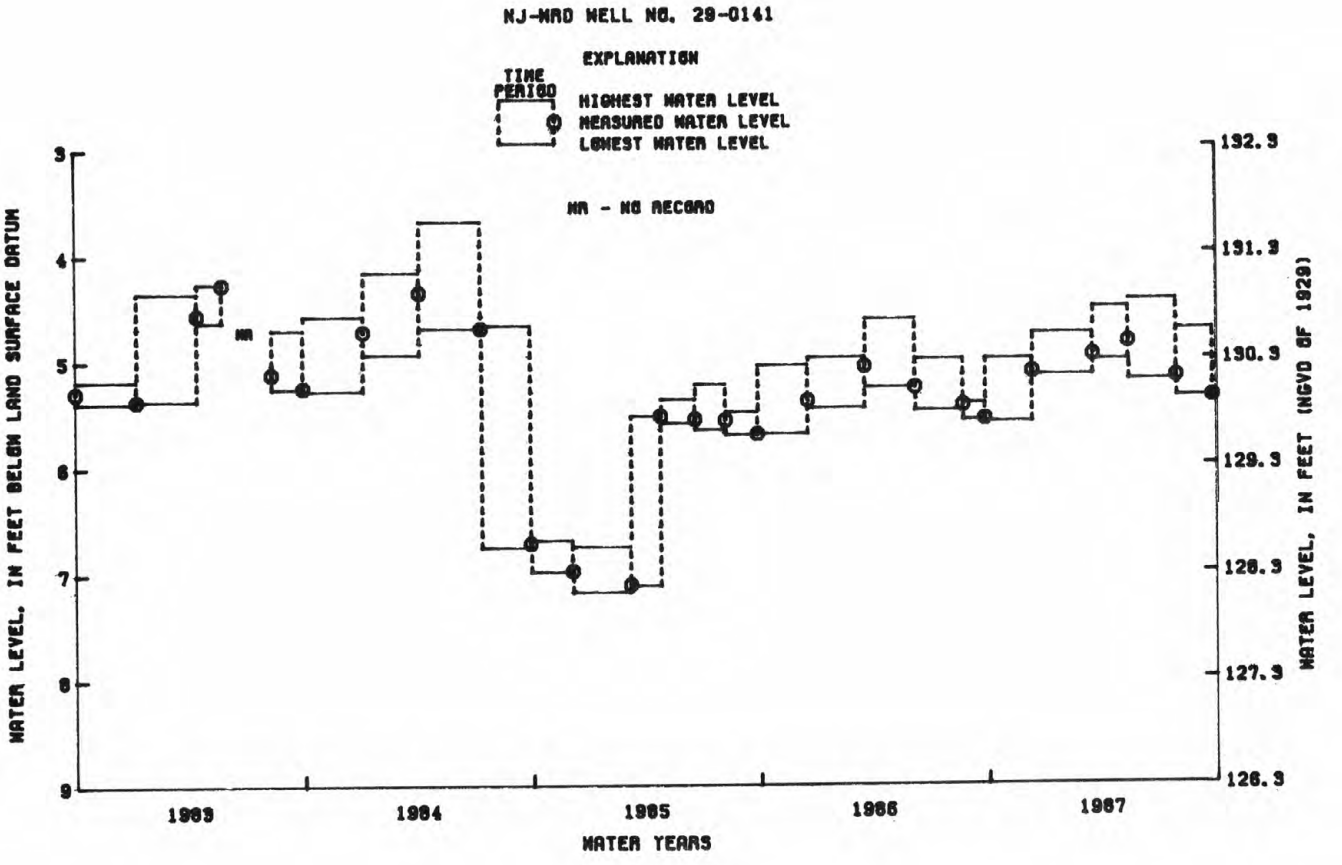


OCEAN COUNTY

400416074270104. Local I.D., Colliers Mills TW 4 Obs. NJ-WRD Well Number, 29-0141.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 71 ft, gravel-filled hole 46 to 71 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, March 1964 to April 1975.
DATUM.--Land-surface datum is 135.31 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 2.86 ft above land-surface datum.
REMARKS.--Water level affected by stage of Colliers Mills Pond.
PERIOD OF RECORD.--March 1964 to April 1975, October 1976 to current year. Records for 1964 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.68 ft below land-surface datum, between Apr. 3 and July 11, 1984; lowest, 7.17 ft below land-surface datum, between Dec. 4, 1984 and Mar. 6, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 26, 1986 TO DEC. 11, 1986	4.99	5.59	DEC. 11, 1986	5.12
DEC. 11, 1986 TO MAR. 17, 1987	4.75	5.15	MAR. 17, 1987	4.96
MAR. 17, 1987 TO MAY 13, 1987	4.51	5.01	MAY 13, 1987	4.84
MAY 13, 1987 TO JULY 29, 1987	4.44	5.20	JULY 29, 1987	5.17
JULY 29, 1987 TO SEPT. 25, 1987	4.72	5.36	SEPT. 25, 1987	5.36



UNION COUNTY

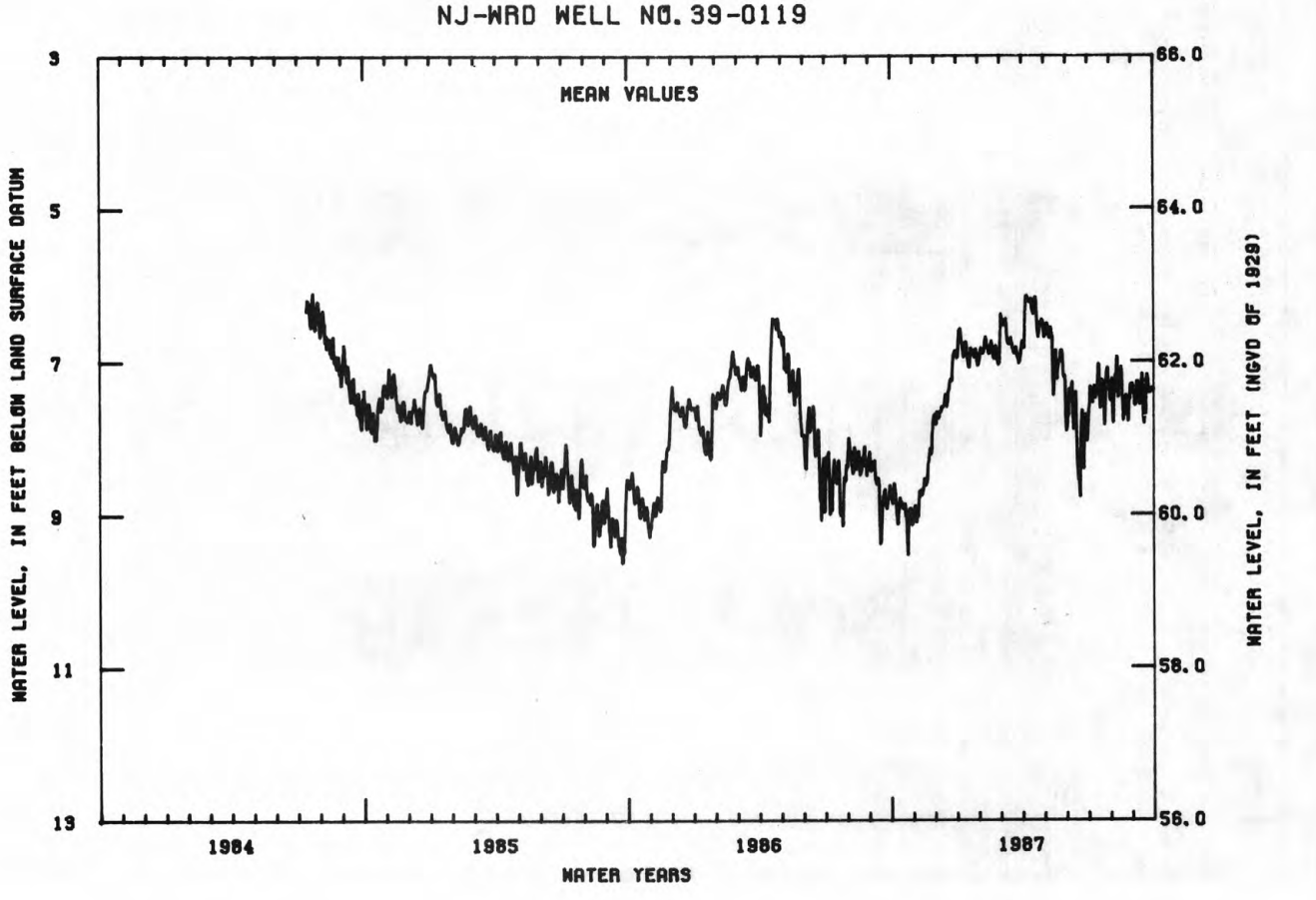
404106074171901. Local I.D., Union County Park Obs. NJ-WRD Well Number, 39-0119.
LOCATION.--Lat 40°41'06", long 74°17'19", Hydrologic Unit 02030104, at Galloping Hill Golf Course, Kenilworth.
Owner: Union County Park Commission.
AQUIFER.--Passaic Formation of Jurassic-Triassic age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, length of casing unknown, depth 290 ft, open hole.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 69.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--June 1943 to May 1975, July 1984 to current year. Periodic manual measurements, August 1976 to April 1984. Records for 1975 to 1983 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.06 ft below land-surface datum, June 2, 1952; lowest, 16.05 ft below land-surface datum, June 29, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.58	9.09	7.72	6.61	6.89	6.51	6.31	6.49	7.35	7.37	7.80	7.56
10	9.12	8.76	7.58	6.92	6.76	6.61	6.22	6.54	7.70	7.31	6.93	7.46
15	8.83	8.63	7.42	6.98	6.83	6.71	6.35	7.28	7.87	7.02	7.15	7.34
20	8.85	8.54	7.36	6.86	6.96	6.89	6.22	7.06	8.77	7.23	7.46	7.25
25	9.14	8.21	7.00	6.91	6.97	6.94	6.51	6.84	8.40	7.58	7.55	7.36
EOM	9.08	7.68	6.95	6.98	7.01	6.75	6.59	7.71	8.04	7.41	7.28	7.36
MEAN	8.93	8.52	7.39	6.87	6.86	6.73	6.40	6.92	7.87	7.38	7.39	7.41

WATER YEAR 1987 -- MEAN 7.39 HIGH 6.11 APR 6,7,13 LOW 9.95 OCT 24



GROUND-WATER LEVELS - SECONDARY OBSERVATION WELLS
OTHER SITES FOR WHICH DATA ARE AVAILABLE

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	AQUIFER UNIT	WC	PERIOD OF RECORD
01-387	RAMBERG, RALPH	AMATOL 8	393557	744114	121CKKD	W	1961-1986
01-496	US GEOL SURVEY	USGS 4-H-2	394029	743957	121CKKD	W	1963-1986
01-542	US GEOL SURVEY	WHARTON 2G	394028	743959	121CKKD	W	1960-1986
01-545	US GEOL SURVEY	WHARTON 11	394046	744010	121CKKD	W	1957-1986
01-775	ATLANTIC CITY MUA	FAA INTERMED	392639	743232	121CKKD	W	1985-P
01-776	ATLANTIC CITY MUA	FAA SHALLOW	392639	743232	121CKKD	W	1985-P
05-029	US GEOL SURVEY	OSWEGO LAKE 1	394208	742645	121CKKD	W	1962-1986
05-030	US GEOL SURVEY	OSWEGO LAKE 2	394208	742645	121CKKD	W	1962-1986
05-407	US GEOL SURVEY	ATSION 1	394422	744309	124PNPN	A	1963-P
05-408	US GEOL SURVEY	ATSION 2	394422	744309	121CKKD	W	1963-P
05-409	US GEOL SURVEY	ATSION 3	394422	744309	121CKKD	W	1963-P
05-570	US GEOL SURVEY	MOUNT	394106	743623	121CKKD	W	1955-P
05-628	US GEOL SURVEY	PENN SF SHALLOW	394452	742819	121CKKD	W	1936-P
05-630	US GEOL SURVEY	PENN SF DEEP	394513	742806	121CKKD	W	1963-P
05-676	US GEOL SURVEY	COYLE AIRPORT	394914	742546	124PNPN	A	1962-P
09-011	CAPE MAY CITY WD	CMCWD 1 OBS	385612	745457	121CNSY	A	1967-1986
09-048	US GEOL SURVEY	CANAL 5	385748	745533	121CNSY	A	1957-1986
09-080	US GEOL SURVEY	CAPE MAY 42CC	390213	745056	121CNSY	A	1957-P
09-081	US GEOL SURVEY	CAPE MAY 23HB	390211	745055	112HLBC	W	1957-P
13-013	COMMONWEALTH WC	CANOE BROOK 30	404452	742116	112SFDF	U	1950-P
13-014	EAST ORANGE WD	NEUTRAL ZONE	404454	742021	112SFDF	U	1926-P
13-017	WALSH BROS	BALLENTINE 8	404401	740834	231PSSC	A	1949-P
21-088	US GEOL SURVEY	HONEYBRANCH 10	402128	744613	231PSSC	W	1968-P
23-159	DUHERNAL WC	DUHERNAL OBS 5	402353	742152	211ODBG	W	1939-1986
23-180	DUHERNAL WC	DUHERNAL OBS 1	402438	742129	211ODBG	W	1938-1986
23-181	PERTH AMBOY WD	RUNYON 123	402442	742136	211ODBG	W	1955-1986
23-194	PERTH AMBOY WD	RUNYON 1	402536	742018	211FRNG	A	1934-P
23-265	CHEVRON OIL CO	11	403211	741612	211FRNG	W	1950-1986
23-270	AMER CYANAMID	TEST 2	403231	741616	211FRNG	W	1950-1986
23-273	NJ WATER POLICY	PLAINSBORO POND	401932	743529	211MRPAM	U	1970-P
23-291	MONROE TWP MUA	OBS 1-1961	402109	743013	211FRNG	A	1965-P
23-292	MONROE TWP MUA	OBS 2-1961	402109	743012	211ODBG	W	1961-P
23-306	PHELPS DODGE CO	PHELPS DODGE 3	402147	742847	211FRNG	A	1969-P
23-344	SAYREVILLE WD	SWD 2	402558	742013	211ODBG	W	1968-P
23-351	SAYREVILLE WD	SWD 1	402605	741959	211ODBG	W	1968-P
23-365	DUHERNAL WC	DUH SAY 4	402633	742120	211FRNG	A	1932-P
23-433	NJ WATER POLICY	SO RIVER 4	402555	742133	211ODBG	W	1968-1986
23-482	AMER CYANAMID	TEST 1	403242	741617	211FRNG	A	1950-P
23-516	NOVAK, W	HULSART	402123	741849	211EGLS	W	1936-1984
25-250	GORDONS CRNR WC	VILLAGE 215	401918	741529	211EGLS	A	1971-P
27-001	US GEOL SURVEY	RECREATION FLD	404432	742252	112SFDF	U	1967-P
27-002	US GEOL SURVEY	W B DRIVER 1	404738	742406	112SFDF	U	1966-P
27-003	US GEOL SURVEY	W B DRIVER 2	404748	742419	112SFDF	U	1966-P
27-004	US GEOL SURVEY	CLEMENS	404816	742359	112SFDF	U	1966-P
27-005	US GEOL SURVEY	SANDOZ CHEM CO	404826	742347	112SFDF	U	1966-P
27-006	US GEOL SURVEY	GREEN ACRES	404937	742200	112SFDF	U	1967-P
27-014	US GEOL SURVEY	ESSO SIX INCH	404705	742452	112SFDF	U	1967-P
27-015	MORRISTOWN ARPT	T2	404743	742522	112SFDF	U	1960-P
27-017	MADISON BORO WD	MBWD 4	404508	742402	112SFDF	U	1958-P
27-022	INT PIPE	INT PIPE	405209	742638	112SFDF	U	1963-P
27-023	RANDOLPH WD	RWD MT FR 2	404921	743356	400PCMB	U	1964-P
29-018	US GEOL SURVEY	IS BEACH 2	394829	740535	124PNPN	A	1962-P
29-020	US GEOL SURVEY	IS BEACH 4	394829	740535	121CKKD	W	1962-P
29-425	US GEOL SURVEY	WEBBS MILLS 2	395322	742252	124PNPN	A	1962-P
29-513	US GEOL SURVEY	GARDEN ST PKY 1	394744	741418	121CKKD	W	1962-P
29-514	US GEOL SURVEY	GARDEN ST PKY 2	394744	741418	121CKKD	W	1962-P
29-532	PT. PLEASANT WD	PPWD 3	400459	740359	211EGLS	A	1986-P
31-011	WANAQUE WD	HASKELL	410209	741708	112TILL	W	1965-1982
39-058	MAGRUDER COLOR	SCHWEITZER	404113	741216	231PSSC	A	1956-P
39-102	WHITE LABS INC	LAB 3	404027	741644	231PSSC	A	1952-P
39-115	WHITE LABS INC	LAB 4	404043	741618	231PSSC	A	1952-P
39-133	ORIT CORP	HATFIELD OBS	403726	741623	231PSSC	A	1959-P

See figure 12 for well locations.
P - Present
Aquifer unit: see definition of terms
WC - (Water Condition): A-Artesian, W-Water table, U-Undetermined
Data available in the files of the New Jersey District Office.

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
ATLANTIC COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
01-367	LONGPORT WD	LONGPORT 2	391859	743122	10	750 - 800	122KRKDL
01-582	NJ WATER CO	NJWC 5-DOBBS	391906	743629	15	79 - 99	121CKKD
01-589	NJ WATER CO	NJWC 9-GROVELAND	391924	743550	19	129 - 159	121CKKD
01-592	SOMERS POINT SA	SOM PT-1	391957	743606	8	80 - 110	121CKKD
01-353	NJ WATER CO	SHORE-KIRKLIN	392001	743522	10	56 - 71	121CKKD
01-375	MARGATE CITY WD	MCWD 4	392002	743012	10	745 - 795	122KRKDL
01-598	VENTNOR CITY WD	VCWD 9	392030	742852	8	740 - 800	122KRKDL
01-682	RESORTS INTRNTL	1-1980	392134	742521	8	840*	122KRKDL
01-549	NJ WATER CO	SHORE-MILL RD	392157	743317	25	117 - 152	121CKKD
01-041	BRIGANTINE WD	BRIG WD 1	392431	742153	8	736 - 829	122KRKDL
01-013	NJ WATER CO	SHORE-ABSECON1	392554	743027	22	178 - 205	121CKKD

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
01-367	LONGPORT WD	LONGPORT 2	8/26/1987	19.0	179	7.7	7.2
01-582	NJ WATER CO	NJWC 5-DOBBS	8/25/1987	14.5	137	5.2	20
01-589	NJ WATER CO	NJWC 9-GROVELAND	8/25/1987	13.0	620	4.5	200
01-592	SOMERS POINT SA	SOM PT-1	8/25/1987	13.0	66	5.6	10
01-353	NJ WATER CO	SHORE-KIRKLIN	8/25/1987	14.0	123	5.3	16
01-375	MARGATE CITY WD	MCWD 4	8/26/1987	18.5	165	7.5	6.0
01-598	VENTNOR CITY WD	VCWD 9	8/26/1987	19.0	153	7.7	6.3
01-682	RESORTS INTRNTL	1-1980	8/26/1987	19.5	186	7.7	7.4
01-549	NJ WATER CO	SHORE-MILL RD	8/25/1987	13.5	128	5.0	14
01-041	BRIGANTINE WD	BRIG WD 1	8/26/1987	18.5	118	7.5	3.4
01-013	NJ WATER CO	SHORE-ABSECON1	8/25/1987	13.0	53	4.9	5.9

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
122KRKDL - Atlantic City 800-foot sand of the Kirkwood Formation

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

BERGEN COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
03-0219	LEONIA BD EDUCATION	LEONIA HS FLD	405221	0735920	10	58 - 350	231BRCK
03-0222	FAIRLEIGH DICKINSON UNIV	SOCCER FIELD	405407	0740143	10	116 - 363	231BRCK
03-0226	BERGEN CO PARK COMM	ROCKLEIGH PK 2	405940	0735624	30	41 - 300	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
03-0219	07-24-87	12.5	247	7.6	81	24	5.1	11	1.0
03-0222	09-10-87	15.0	440	7.9	140	30	16	36	1.0
03-0226	07-24-87	13.5	343	7.7	140	47	5.6	14	1.0

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
03-0219	84	<1.0	68	17	12	1.0	27	140	<0.010
03-0222	138	<1.0	112	56	25	0.2	15	250	<0.010
03-0226	118	<1.0	98	33	12	0.1	19	190	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
03-0219	3.0	<0.010	0.40	0.030	0.020	<10	<1	<1	<1
03-0222	1.9	0.010	<0.20	0.060	0.050	<10	3	<1	<1
03-0226	4.7	<0.010	0.60	0.020	0.020	<10	3	<1	<1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)
03-0219	<1	7	31	1	<0.1	50	0.5	2	--
03-0222	2	<3	<5	<1	<0.1	24	1.0	4	<0.20
03-0226	3	3	<5	1	<0.1	<3	1.5	2	--

NJ-WRD WELL NUMBER	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)
03-0219	--	--	--	--	--	--	--	--	--
03-0222	<0.20	<0.20	<0.20	<0.20	0.60	<0.20	<0.20	<0.20	<0.20
03-0226	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

BERGEN COUNTY

NJ-WRD WELL NUMBER	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)
03-0219	--	--	--	--	--	--	--	--	--
03-0222	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
03-0226	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPANE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)
03-0219	--	--	--	--	--	--	--	--	--
03-0222	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
03-0226	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)
03-0219	--	--	--	--	--	--	--	--
03-0222	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2
03-0226	--	--	--	--	--	--	--	--

AQUIFER UNIT

231BRCK-Brunswick Group (undifferentiated).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

BURLINGTON COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
05-0417	ST OF NJ	MULICA 10D	394608	0744054	48.5	95 - 100	121CKKD
05-0418	ST OF NJ	MULICA 29S	394608	0744054	48.5	41 - 46	121CKKD
05-0451	ST OF NJ	MULLICA 5D	394536	0743542	64.9	165 - 170	121CKKD
05-0452	ST OF NJ	MULLICA 55S	394536	0743542	64.9	16 - 21	121CKKD

NJ-WRD WELL NUMBER	DATE	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)
05-0417	09-11-87	12.5	155	6.9	3	0.59	0.43	34	4.1	93
05-0418	09-11-87	12.0	28	4.8	2	0.22	0.28	1.6	0.80	<1.0
05-0451	09-11-87	13.0	193	8.2	67	25	1.1	12	5.0	110
05-0452	09-11-87	14.5	38	5.6	3	0.54	0.39	2.0	0.40	14

NJ-WRD WELL NUMBER	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
05-0417	<1.0	76	9.9	1.6	0.4	15	110	<0.010	<0.10	0.050
05-0418	<1.0	<1	3.6	4.7	0.1	7.7	--	<0.010	<0.10	0.010
05-0451	<1.0	88	8.6	8.3	0.1	22	140	<0.010	<0.10	0.050
05-0452	<1.0	11	5.3	3.5	0.1	4.3	31	<0.010	<0.10	0.080

NJ-WRD WELL NUMBER	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
05-0417	<0.20	0.060	<10	6	<0.5	<1	<5	<3	<10	1200
05-0418	<0.20	<0.010	60	29	<0.5	<1	<5	<3	<10	68
05-0451	<0.20	0.130	<10	87	<0.5	1	<5	<3	<10	220
05-0452	<0.20	0.020	160	11	<0.5	<1	<5	<3	<10	6900

NJ-WRD WELL NUMBER	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
05-0417	<10	<4	14	<10	<10	<1	10	<6	<3	1.1
05-0418	<10	<4	7	<10	<10	<1	6	<6	<3	8.4
05-0451	<10	4	53	<10	<10	<1	130	<6	<3	1.0
05-0452	<10	<4	29	<10	<10	<1	4	<6	<3	4.1

Aquifer Unit

121CKKD-Kirkwood-Cohansey aquifer system.

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
CAPE MAY COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
09-017	US COAST GUARD	USCG 1	385651	745310	11	292 - 322	121CNSY
09-018	US COAST GUARD	USCG 2	385652	745327	11	295 - 325	121CNSY
09-209	COLD SPRING PACKING	COLD SPRING 1	385656	745422	5	90 - 110	112ESRNS
09-044	SNOW CANNING	SNOW 1	385725	745257	10	278*	121CNSY
09-154	WILDWOOD WD	WWD 2	385932	744851	10	293 - 354	121CNSY
09-132	STONE HARBOR WD	SHWD 4	390301	744545	10	830 - 880	122KRKDL
09-173	STONE HARBOR WD	SHWD 6	390314	744532	10	822 - 862	122KRKDL
09-135	STONE HARBOR WD	SHWD 3	390323	744525	9	837 - 877	122KRKDL
09-166	STONE HARBOR WD	SHWD 5	390351	744504	7	820 - 860	122KRKDL
09-002	AVALON WD	AVALON WD 7-71	390420	744435	5	821 - 861	122KRKDL
09-004	AVALON WD	AVALON WD 6	390528	744338	10	880 - 920	122KRKDL
09-005	AVALON WD	AVALON WD 8-76	390545	744326	8	784 - 839	122KRKDL
09-126	SEA ISLE CITY WD	SICWD 5	390747	744241	7	735 - 802	122KRKDL
09-128	SEA ISLE CITY WD	SICWD 3	390902	744153	7	800 - 870	122KRKDL
09-106	NJ WATER CO	SHORE DIV 7	391343	743755	8	760 - 810	122KRKDL
09-124	NJ WATER CO	SHORE DIV 13	391712	743340	8	757 - 840	122KRKDL

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
09-017	US COAST GUARD	USCG 1	8/26/1987	16.0	390	7.9	50
09-018	US COAST GUARD	USCG 2	8/26/1987	15.5	350	7.8	35
09-209	COLD SPRING PACKING	COLD SPRING 1	8/24/1987	---	500	7.3	120
09-044	SNOW CANNING	SNOW 1	8/26/1987	15.5	305	7.7	20
09-154	WILDWOOD WD	WWD 2	8/24/1987	15.5	750	7.5	190
09-132	STONE HARBOR WD	SHWD 4	8/27/1987	20.0	1,000	8.6	230
09-173	STONE HARBOR WD	SHWD 6	8/27/1987	20.0	310	8.7	20
09-135	STONE HARBOR WD	SHWD 3	8/27/1987	21.0	305	8.7	17
09-166	STONE HARBOR WD	SHWD 5	8/27/1987	20.5	315	8.6	23
09-002	AVALON WD	AVALON WD 7-71	8/27/1987	19.5	259	8.7	12
09-004	AVALON WD	AVALON WD 6	8/27/1987	20.0	375	8.6	48
09-005	AVALON WD	AVALON WD 8-76	8/27/1987	19.5	255	8.5	13
09-126	SEA ISLE CITY WD	SICWD 5	8/27/1987	19.5	242	8.5	10
09-128	SEA ISLE CITY WD	SICWD 3	8/27/1987	19.5	255	8.4	14
09-106	NJ WATER CO	SHORE DIV 7	8/25/1987	19.5	202	8.0	10
09-124	NJ WATER CO	SHORE DIV 13	8/25/1987	19.5	196	7.9	9.0

* Total depth of well.

Aquifer unit:

112ESRNS - Cape May Formation, estuarine sand facies
121CNSY - Cohansey Sand
122KRKDL - Atlantic City 800-foot sand of the Kirkwood Formation

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

ESSEX COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
13-0052	LIVINGSTON TWP WD	LTWD 7	404757	0742135	180	69.8 - 301	231BRCK
13-0089	MOUNTAINSIDE HOSPITAL	COOLING-1	404840	0741211	240	43 - 400	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
13-0052	05-11-87	11.5	432	7.5	170	38	18	13	0.7
13-0089	08-19-87	14.5	635	7.2	270	66	26	21	2.9

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
13-0052	137	<1.0	110	29	36	0.1	24	230	<0.010
13-0089	166	<1.0	134	64	74	0.1	20	360	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
13-0052	1.1	<0.010	0.30	0.090	0.080	1	<1	<1	<1
13-0089	3.3	<0.010	0.60	0.050	0.020	<10	3	<1	<1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)
13-0052	2	5	<5	<1	<0.1	22	0.8	<1	<0.20
13-0089	2	3	<5	<1	<0.1	10	1.1	1	<0.20

NJ-WRD WELL NUMBER	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)
13-0052	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
13-0089	<0.20	<0.20	<0.20	<0.20	23	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)
13-0052	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
13-0089	<0.20	<0.20	<0.20	<0.20	3.3	<0.20	<0.20	<0.20	0.30

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

ESSEX COUNTY

NJ-WRD WELL NUMBER	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPANE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)
13-0052	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
13-0089	<0.20	<0.20	<0.20	<0.20	0.80	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	TRANS-1,3-DICHLOROPROPENE TOTAL (UG/L)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L)	1,2-DIBROMOETHYLENE TOTAL (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)
13-0052	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2
13-0089	<0.20	<0.20	<0.20	<0.2	<0.20	0.8	<0.2	<0.2

Aquifer unit

231BRCK-Brunswick Group (undifferentiated).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HUDSON COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
17-0005	KISS & SONS TEXTILE	MILL 1	404800	0740045	220	50 - 1155	231SCKN

NJ-WRD WELL NUMBER	DATE	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
17-0005	08-04-87	16.5	817	8.6	21	8.0	0.29	160	0.7

NJ-WRD WELL NUMBER	BICAR-BONATE IT-FLD (MG/L AS HCO3)	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
17-0005	109	4.0	95	92	130	1.0	12	470	<0.010

NJ-WRD WELL NUMBER	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
17-0005	<0.10	<0.010	0.50	0.060	<0.010	<10	<1	<1	1

NJ-WRD WELL NUMBER	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
17-0005	<1	4	<5	<1	<0.1	18	2.0	<1

Aquifer Unit

231SCKN-Stockton Formation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HUNTERDON COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
19-0032	LIPTON PRODUCTIONS	LIPTON 1	403215	0745024	120	44 - 502	231BRCK
19-0037	MANLEY, MICHAEL	MANLEY 1	402829	0745456	450	53 - 280	231SCKN
19-0039	ORTHO RESEARCH INST	1-DOG BARN	403455	0745905	460	42 - 192	231BRCK
19-0043	COPPER HILL CTRY CLUB	IRRIGATION	402756	0745150	145	40 - 300	231BRCK
19-0063	ZION LUTHERAN CHURCH	CHURCH SCHOOL	404019	0744446	200	107 - 230	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
19-0032	07-29-87	13.5	834	7.5	430	140	19	21	0.8
19-0037	07-21-87	12.5	342	7.8	160	37	17	9.2	1.0
19-0039	07-21-87	12.5	155	6.1	55	14	4.8	8.5	0.5
19-0043	07-22-87	13.0	1120	7.7	600	180	37	27	1.2
19-0063	05-27-87	12.5	462	7.4	290	66	31	11	1.1

NJ-WRD WELL NUMBER	BICAR-BONATE IT-FLD (MG/L AS HCO3)	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
19-0032	148	<1.0	121	300	11	0.2	18	580	<0.010
19-0037	152	<1.0	123	27	11	0.1	19	200	<0.010
19-0039	36	<1.0	31	19	7.2	0.1	22	94	<0.010
19-0043	146	<1.0	120	520	6.6	0.2	23	870	<0.010
19-0063	248	<1.0	206	32	39	<0.1	16	320	<0.010

NJ-WRD WELL NUMBER	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
19-0032	0.85	<0.010	0.50	0.030	0.020	<10	2	<1	<1
19-0037	1.90	<0.010	0.30	0.060	0.040	<10	1	<1	<1
19-0039	3.00	<0.010	0.50	0.060	0.020	<10	<1	<1	<1
19-0043	<0.10	0.050	0.40	0.020	<0.010	<10	16	<1	<1
19-0063	2.70	0.020	0.40	0.010	<0.010	4	<1	<1	<1

NJ-WRD WELL NUMBER	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
19-0032	<1	<3	<5	65	0.2	<3	1.9	3
19-0037	<1	<3	<5	<1	<0.1	73	1.4	4
19-0039	13	<3	<5	1	0.3	7	1.2	3
19-0043	<1	280	<5	190	<0.1	5	1.3	--
19-0063	1	<3	<5	<1	<0.1	10	1.2	3

Aquifer Units

231BRCK-Brunswick Group (undifferentiated).
231SCKN-Stockton Formation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MERCER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
21-0198	PRINCETON W CO	8	401927	0743927	60.00	301*	231SCKN

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
21-0198	09-09-87	12.0	394	6.5	170	44	15	14	1.4

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
21-0198	160	<1.0	131	28	13	0.2	24	220	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
21-0198	0.74	0.010	<0.20	0.110	0.070	<10	<1	<1	1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)
21-0198	12	<3	<5	<1	<0.1	11	1.1	2	<0.20

NJ-WRD WELL NUMBER	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)
21-0198	<0.20	<0.20	<0.20	<0.20	0.40	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)
21-0198	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPANE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)
21-0198	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MERCER COUNTY

NJ-WRD WELL NUMBER	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)
21-0198	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2

* Total depth of well.

Aquifer Unit

231SCKN-Stockton Formation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
23-1116	PRINCETON UNIVERSITY	FORRESTAL NO 3	402045	0743648	115	406*	231SCKN
23-0340	MIDDLESEX WATER CO	30 PARK AVE	403555	0742429	75	97.8 - 500	231BRCK
23-1051	RUTGERS UNIVERSITY	COOK FARM HOUSE	402804	0742539	50	53 - 160	231BRCK
23-0792	PRINCETON UNIVERSITY	TEST WELL 1	402059	0743601	97.6	31 - 60	231SCKN
23-0801	PRINCETON UNIVERSITY	TEST WELL 10	402100	0743601	97.1	100 - 125	231SCKN

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)
23-1116	04-28-87	11.5	272	5.8	64	15	6.4	21	2.0	--
23-0340	04-29-87	13.0	679	7.6	290	85	19	19	1.4	202
23-1051	07-23-87	13.0	263	7.7	94	23	9.0	15	3.5	116
23-0792	01-16-87	12.0	350	7.2	150	39	12	8.6	1.3	--
23-0792	10-29-86	12.0	360	7.3	180	47	14	10	1.5	--
23-0792	01-15-87	12.0	350	7.2	--	--	--	--	--	--
23-0792	04-22-87	12.5	390	7.2	170	46	14	11	1.4	--
23-0792	09-16-87	--	--	--	--	--	--	--	--	--
23-0792	07-30-87	12.0	369	7.4	170	45	14	11	2.1	--
23-0801	10-29-86	12.0	348	7.5	170	46	12	9.7	1.6	--
23-0801	01-15-87	11.5	333	7.3	--	--	--	--	--	--
23-0801	01-16-87	11.5	333	7.3	160	44	11	9.2	1.6	--
23-0801	04-22-87	12.0	360	7.4	160	45	12	9.8	1.6	--
23-0801	07-29-87	12.0	358	7.4	170	46	12	9.9	2.0	--

NJ-WRD WELL NUMBER	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
23-1116	--	23	20	41	<0.1	24	140	<0.010	1.6
23-0340	<1.0	164	110	36	<0.1	22	390	<0.010	3.5
23-1051	<1.0	94	14	16	0.1	33	170	<0.010	<0.1
23-0792	--	151	--	--	--	23	--	--	--
23-0792	--	--	21	13	0.1	26	--	<0.010	<0.1
23-0792	--	151	22	10	0.1	--	--	<0.010	0.19
23-0792	--	150	24	17	0.1	27	230	<0.010	0.13
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	181	22	15	0.1	26	240	<0.010	0.14
23-0801	--	--	18	13	0.1	25	--	<0.010	<0.10
23-0801	--	143	18	13	0.1	--	--	<0.010	<0.10
23-0801	--	143	--	--	--	25	--	--	--
23-0801	--	152	19	16	0.2	26	220	<0.010	<0.10
23-0801	--	173	18	13	0.1	26	230	<0.010	<0.10

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)
23-1116	<0.010	0.90	0.080	0.070	10	<1	--	--	<1
23-0340	0.020	0.80	0.050	0.040	<10	2	--	--	1
23-1051	0.210	0.80	0.030	0.020	<10	<1	--	--	<1
23-0792	--	--	--	--	--	--	290	<0.5	<1
23-0792	<0.010	0.80	--	0.020	--	--	350	1	<1
23-0792	<0.010	<0.20	--	0.020	--	--	--	--	--
23-0792	<0.010	0.30	--	0.010	--	--	330	<0.5	1
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<0.010	0.30	--	0.010	--	--	330	<0.5	<1
23-0801	<0.010	0.40	--	0.020	--	--	390	1	<1
23-0801	0.030	<0.20	--	0.020	--	--	--	--	--
23-0801	--	--	--	--	--	--	370	<0.5	<1
23-0801	0.020	0.30	--	0.010	--	--	400	<0.5	2
23-0801	0.030	0.30	--	0.020	--	--	400	<0.5	<1

NJ-WRD WELL NUMBER	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
23-1116	<1	--	--	7	110	<5	--	30	<0.1
23-0340	<1	--	--	4	5	<5	--	2	<0.1
23-1051	<1	--	--	<1	360	<5	--	75	<0.1
23-0792	--	--	<3	<10	3	<10	6	6	--
23-0792	--	--	<3	<10	13	<10	7	170	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	<3	<10	27	<10	4	56	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<5	<1	<3	<10	24	<10	8	50	--
23-0801	--	--	<3	<10	510	<10	8	300	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	<3	<10	<3	<10	7	300	--
23-0801	--	--	<3	<10	400	<10	10	300	--
23-0801	<5	<1	<3	<10	410	<10	12	310	--

NJ-WRD WELL NUMBER	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)
23-1116	--	--	--	--	--	10	0.8	<1	<3.0
23-0340	--	--	--	--	--	10	0.9	3	--
23-1051	--	--	--	--	--	3	1.4	3	--
23-0792	<10	--	--	320	<6	13	--	--	--
23-0792	<10	--	--	380	<6	<3	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<10	--	--	360	<6	<3	--	--	--
23-0792	--	--	--	--	--	--	--	--	<0.20
23-0792	<10	<10	<1	360	<6	10	--	--	<0.20
23-0801	<10	--	--	410	<6	<3	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	<10	--	--	390	<6	7	--	--	--
23-0801	<10	--	--	400	<6	10	--	--	--
23-0801	<10	<10	<1	400	<6	6	--	--	<0.20

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)
23-1116	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
23-0340	--	--	--	--	--	--	--	--	--
23-1051	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<0.20	<0.20	<0.20	<0.20	0.70	<0.20	<0.20	<0.20	<0.20
23-0792	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)
23-1116	<3.0	<3.0	<3.0	<3.0	76	<3.0	<3.0	<3.0	5.3
23-0340	--	--	--	--	--	--	--	--	--
23-1051	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<0.20	<0.20	<0.20	<0.20	9.3	<0.20	<0.20	<0.20	<0.20
23-0792	<0.20	<0.20	<0.20	<0.70	8.8	<0.20	0.60	<0.20	1.5
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	<0.20	<0.20	<0.20	<0.20	3.6	<0.20	<0.20	<0.20	0.20

NJ-WRD WELL NUMBER	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPANE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)
23-1116	<3.0	<3.0	<3.0	<3.0	4.2	<3.0	<3.0	<3.0	<3.0
23-0340	--	--	--	--	--	--	--	--	--
23-1051	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<0.20	<0.20	<0.20	<0.20	0.60	<0.20	<0.20	<0.20	<0.20
23-0792	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)	TRITIUM TOTAL (PCI/L)
23-1116	<3.0	<3.0	<3.0	<3.0	<3.0	210	<3.0	<3.0	--
23-0340	--	--	--	--	--	--	--	--	--
23-1051	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	--	--	--	--	--	--	--	--	--
23-0792	<0.20	<0.20	<0.20	<0.2	<0.20	7.8	<0.2	<0.2	--
23-0792	<0.20	<0.20	<0.20	<0.2	<0.20	0.4	<0.2	<0.2	64
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	--	--	--	--	--	--	--	--	--
23-0801	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	61

* Total depth of well.

Aquifer Units

231BRCK-Brunswick Group (undifferentiated).
231SCKN-Stockton Formation.

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUTDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
23-0735	PERTH AMBOY WD	RUNYON 8R	402524	741940	10	70 - 85	2110DBG
23-0571	PERTH AMBOY WD	PERTH AMBOY 7	402531	741932	15	67 - 82	2110DBG
23-0195	PERTH AMBOY WD	PERTH AMBOY 5	402537	742001	12	50 - 80	2110DBG
23-0196	PERTH AMBOY WD	PERTH AMBOY 1A	402537	742020	20	201 - 261	211FRNG
23-0196	PERTH AMBOY WD	PERTH AMBOY 1A	402537	742020	20	201 - 261	211FRNG
23-0570	PERTH AMBOY WD	PERTH AMBOY 6	402538	741950	15	60 - 80	2110DBG
23-0551	SOUTH RIVER WD	SRWD 6	402548	742155	47	155 - 208	211FRNG
23-0069	C P S CHEMICAL	C P S 1-1975	402609	741940	25	56 - 66	2110DBG
23-0434	SOUTH RIVER WD	SRWD 2	402556	742141	20	173 - 198	211FRNG
23-0438	SOUTH RIVER WD	SRWD 5	402559	742142	20	132 - 182	211FRNG
23-0355	SAYREVILLE WD	SWD A	402614	741950	30	72 - 82	2110DBG
23-0368	SAYREVILLE WD	I	402626	741936	58	83 - 94	2110DBG
23-0365	DUHERNAL WC	DUH SAY 4	402633	742120	6	148 - 160	211FRNG
23-0439	SOUTH RIVER WD	SRWD 2R	402633	742200	21	121 - 126	211FRNG
23-0371	HERCULES POWDER	HERCULES 5	402638	742022	48	182 - 228	211FRNG
23-0440	THOMAS & CHADWICK	1	402648	742226	15	195*	211FRNG
23-0376	HERCULES POWDER	HERCULES 3	402649	742025	41	180 - 220	211FRNG
23-0205	OLD BRIDGE MUA	LAWRENCE HAR 8	402700	741454	60	193 - 213	2110DBG
23-0206	OLD BRIDGE MUA	LAWRENCE HAR 9	402700	741454	60	360 - 395	211FRNG
23-1058	US GEOL SURVEY	HESS BROS 1	402704	742139	25	112 - 122	211FRNG
23-1059	US GEOL SURVEY	HESS BROS 2	402704	742139	25	138 - 148	211FRNG
23-0384	HERCULES POWDER	HERCULES 1REBT	402705	742023	54	170 - 225	211FRNG
23-1078	US GEOL SURVEY	SAYER ST	402721	742210	12	68 - 78	211FRNG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	SODIUM DIS-SOLVED (MG/L AS NA)	CHLORIDE DIS-SOLVED (MG/L AS CL)
23-0735	PERTH AMBOY WD	RUNYON 8R	10/ 7/1986	11.5	327	4.0	---	33
23-0571	PERTH AMBOY WD	PERTH AMBOY 7	10/ 7/1986	11.5	212	4.0	---	10
23-0195	PERTH AMBOY WD	PERTH AMBOY 5	10/ 7/1986	12.5	315	4.3	---	150
23-0196	PERTH AMBOY WD	PERTH AMBOY 1A	10/ 7/1986	12.0	673	5.7	---	44
23-0196	PERTH AMBOY WD	PERTH AMBOY 1A	8/11/1987	13.0	715	6.5	---	170
23-0570	PERTH AMBOY WD	PERTH AMBOY 6	10/ 7/1986	12.5	345	3.8	---	41
23-0551	SOUTH RIVER WD	SRWD 6	10/21/1986	12.0	66	5.4	---	8.7
23-0069	C P S CHEMICAL	C P S 1-1975	10/28/1986	12.5	250	3.8	---	50
23-0434	SOUTH RIVER WD	SRWD 2	10/21/1986	13.5	130	5.0	---	14
23-0438	SOUTH RIVER WD	SRWD 5	10/21/1986	12.5	96	5.7	---	23
23-0355	SAYREVILLE WD	SWD A	8/12/1987	12.5	252	4.5	---	41
23-0368	SAYREVILLE WD	I	8/12/1987	12.5	380	3.9	---	11
23-0365	DUHERNAL WC	DUH SAY 4	10/27/1987	13.0	5,550	5.6	---	1,800
23-0439	SOUTH RIVER WD	SRWD 2R	10/21/1986	13.5	630	5.0	---	170
23-0371	HERCULES POWDER	HERCULES 5	10/ 7/1986	13.5	8,200	5.5	---	2,800
23-0440	THOMAS & CHADWICK	1	10/28/1986	13.5	167	7.1	---	11
23-0376	HERCULES POWDER	HERCULES 3	10/ 7/1986	12.5	6,700	5.6	---	2,300
23-0205	OLD BRIDGE MUA	LAWRENCE HAR 8	10/ 2/1986	12.5	89	4.9	---	12
23-0206	OLD BRIDGE MUA	LAWRENCE HAR 9	10/ 2/1986	13.0	65	6.2	---	2.2
23-1058	US GEOL SURVEY	HESS BROS 1	4/21/1987	14.0	7,500	5.7	---	4,700
23-1059	US GEOL SURVEY	HESS BROS 2	4/21/1987	13.5	12,500	6.0	---	4,300
23-0384	HERCULES POWDER	HERCULES 1REBT	10/ 7/1986	13.5	1,070	5.7	---	290
23-1078	US GEOL SURVEY	SAYER ST	5/ 4/1987	12.0	12,500	6.1	2,900	5,300

* Total depth of well.

Aquifer unit:

2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system
211FRNG - Farrington aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUTDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
23-1056	MIDDLESEX COUNTY	MCUA 3	402743	742216	5	43 - 53	211FRNG
23-1056	MIDDLESEX COUNTY	MCUA 3	402743	742216	5	43 - 53	211FRNG
23-0401	SAYREVILLE WD	MORGAN P	402744	741628	44	254 - 288	211FRNG
23-0403	SAYREVILLE WD	SWD Q-1973	402745	741631	40	78 - 136	2110DBG
23-1060	US GEOL SURVEY	MARSH AVE 1	402802	742022	40	138 - 148	211FRNG
23-0080	HERBERT SAND CO	RANNEY WELL	402807	742351	28	18*	211FRNG
23-0411	SOUTH AMBOY WD	SAWD 8	402822	741630	10	209 - 234	211FRNG
23-0414	SOUTH AMBOY WD	SAWD 10	402825	741632	10	38 - 48	2110DBG
23-1077	US GEOL SURVEY	JCP&L-SAY	402831	742120	7	46 - 56	211FRNG
23-0430	JERS CENTRAL PL	7-1972	402923	741651	12	135 - 165	211FRNG
23-0255	CARBORUNDUM CO	1	403046	741827	15	57 - 67	211FRNG
23-0264	CHEVRON OIL CO	OBS 2	403200	741620	45	96 - 106	211FRNG
23-0473	HAAGEN DAZS INC	SWIFT 1	403233	741633	30	39 - 59	211FRNG
23-0478	AMER CYANAMID CO	CYANAMID 2A	403236	741616	9	45 - 60	211FRNG
23-0543	SHELL OIL CO	5(S2)	403242	741526	25	42*	211FRNG
23-0548	SHELL OIL CO	8(R7)	403257	741539	17	36*	211FRNG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	SODIUM DIS-SOLVED (MG/L AS NA)	CHLORIDE DIS-SOLVED (MG/L AS CL)
23-1056	MIDDLESEX COUNTY	MCUA 3	11/ 6/1986	13.5	---	5.3	1,300	5,500
23-1056	MIDDLESEX COUNTY	MCUA 3	8/13/1987	13.0	12,400	5.5	2,900	5,400
23-0401	SAYREVILLE WD	MORGAN P	8/12/1987	12.5	68	6.2	---	3.8
23-0403	SAYREVILLE WD	SWD Q-1973	8/12/1987	13.0	68	4.5	---	27
23-1060	US GEOL SURVEY	MARSH AVE 1	5/ 5/1987	13.0	2,930	5.7	360	840
23-0080	HERBERT SAND CO	RANNEY WELL	10/28/1986	16.0	155	4.8	---	17
23-0411	SOUTH AMBOY WD	SAWD 8	10/ 2/1986	13.5	75	6.0	---	5.4
23-0414	SOUTH AMBOY WD	SAWD 10	10/ 2/1986	13.0	310	4.0	---	38
23-1077	US GEOL SURVEY	JCP&L-SAY	4/27/1987	14.0	19,000	6.9	---	6,000
23-0430	JERS CENTRAL PL	7-1972	10/ 8/1986	13.5	4,000	6.0	---	1,300
23-0255	CARBORUNDUM CO	1	11/ 5/1986	13.5	299	6.9	---	11
23-0264	CHEVRON OIL CO	OBS 2	10/22/1986	13.5	326	6.6	---	34
23-0473	HAAGEN DAZS INC	SWIFT 1	10/ 8/1986	14.0	1,290	5.1	---	260
23-0478	AMER CYANAMID CO	CYANAMID 2A	10/ 8/1986	14.5	1,140	5.7	---	190
23-0543	SHELL OIL CO	5(S2)	10/22/1986	14.0	800	7.5	---	61
23-0548	SHELL OIL CO	8(R7)	10/22/1986	14.5	498	6.7	---	43

* Total depth of well.

Aquifer unit:

2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system
211FRNG - Farrington aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MONMOUTH COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
25-029	BRIELLE WD	BWD 1	400644	740344	35	130 - 150	121CKKD
25-030	BRIELLE WD	BWD 2	400645	740345	33	690 - 750	211EGLS
25-234	MANASQUAN WD	MWD 3	400712	740328	15	118*	121CKKD
25-235	MANASQUAN WD	MWD 2R	400712	740328	21	103 - 118	121CKKD
25-552	MANASQUAN WD	MWD 7	400712	740328	20	94 - 112	121CKKD
25-237	MANASQUAN WD	MWD 5	400714	740329	15	97 - 117	121CKKD
25-512	SEA GIRT WD	SGWD 7	400802	740230	21	92 - 124	121CKKD
25-384	SPRING LAKE WD	SLWD 2	400845	740210	15	640 - 700	211EGLS
25-387	SPRING LK HT WD	SPRING LK HGT1	400857	740309	60	570 - 600	211MLRW
25-391	SPRING LK HT WD	SPRING LK HGT4	400928	740211	20	485 - 560	211MLRW
25-386	SPRING LAKE WD	SLWD 4	400952	740149	15	600 - 670	211EGLS
25-018	BELMAR BORO WD	10 (2 ELECT)	401038	740146	20	581*	211EGLS
25-026	BELMAR BORO WD	BWD 4 ELEC(11)	401102	740045	15	601 - 671	211EGLS
25-011	AVON WD	AWD 2	401136	740120	22	419 - 501	211MLRW
25-001	ALLENHURST WD	AWD 4	401401	740025	17	525 - 565	211EGLS
25-288	ABERDEEN TWP MUA	MATAWAN MUA 3	402349	741232	83	345 - 425	2110DBG
25-294	MATAWAN BORO WD	MATAWAN BORO 1	402428	741345	20	222 - 252	2110DBG
25-006	ATLAN HIGH WD	AHWD 1	402437	740236	20	519 - 582	2110DBG
25-496	ATLAN HIGH WD	AHWD 4	402441	740233	15	510 - 543	2110DBG
25-282	BAYSHORE SEW AU	BAYSHORE 1	402507	741344	10	245 - 260	2110DBG
25-284	MATAWAN BORO WD	MATAWAN BORO 3	402515	741450	90	231 - 271	2110DBG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
25-029	BRIELLE WD	BWD 1	9/ 1/1987	---	194	---	2.5
25-030	BRIELLE WD	BWD 2	9/ 1/1987	20.0	186	7.4	0.8
25-234	MANASQUAN WD	MWD 3	9/ 1/1987	13.5	88	4.4	11
25-235	MANASQUAN WD	MWD 2R	9/ 1/1987	13.5	93	4.4	12
25-552	MANASQUAN WD	MWD 7	9/ 1/1987	13.5	86	4.5	11
25-237	MANASQUAN WD	MWD 5	9/ 1/1987	13.5	61	4.6	8.8
25-512	SEA GIRT WD	SGWD 7	9/ 1/1987	14.0	78	5.5	9.8
25-384	SPRING LAKE WD	SLWD 2	9/ 1/1987	19.5	186	7.5	0.6
25-387	SPRING LK HT WD	SPRING LK HGT1	9/ 1/1987	17.5	194	8.0	0.8
25-391	SPRING LK HT WD	SPRING LK HGT4	9/ 1/1987	---	192	---	0.8
25-386	SPRING LAKE WD	SLWD 4	9/ 1/1987	19.0	183	7.5	0.6
25-018	BELMAR BORO WD	10 (2 ELECT)	9/ 2/1987	18.0	221	8.0	1.2
25-026	BELMAR BORO WD	BWD 4 ELEC(11)	9/ 2/1987	19.5	186	7.7	0.6
25-011	AVON WD	AWD 2	9/ 2/1987	17.5	246	8.0	2.1
25-001	ALLENHURST WD	AWD 4	9/ 2/1987	18.0	212	7.4	1.1
25-288	ABERDEEN TWP MUA	MATAWAN MUA 3	10/ 6/1986	14.0	62	6.0	1.8
25-294	MATAWAN BORO WD	MATAWAN BORO 1	10/ 6/1986	13.0	102	5.8	2.0
25-006	ATLAN HIGH WD	AHWD 1	10/ 8/1986	17.0	98	6.7	1.4
25-496	ATLAN HIGH WD	AHWD 4	10/ 8/1986	16.5	99	6.7	1.4
25-282	BAYSHORE SEW AU	BAYSHORE 1	10/ 1/1986	13.5	115	5.7	12
25-284	MATAWAN BORO WD	MATAWAN BORO 3	10/ 6/1986	12.0	84	5.7	3.9

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
211MLRW - Wenonah-Mount Laurel aquifer
211EGLS - Englishtown aquifer
2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MONMOUTH COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
25-111	W KEANSBURG WC	W KEANSBURG 1	402532	740932	59	326 - 366	2110DBG
25-197	KEYPORT BORO WD	KEYPORT 7	402535	741214	35	304 - 354	2110DBG
25-197	KEYPORT BORO WD	KEYPORT 7	402535	741214	35	304 - 354	2110DBG
25-112	W KEANSBURG WC	W KEANSBURG 2	402537	740933	44	312 - 352	2110DBG
25-113	HAZLET TWP BD ED	1	402542	740850	87	270 - 302	2110DBG
25-199	KERR GLASS CO	REPLACEMENT 2	402542	741220	20	285 - 315	2110DBG
25-466	ABERDEEN TWP WD	3-77	402610	741351	56	420 - 470	211FRNG
25-191	KEANSBURG MUA	KWD 6	402620	740741	10	302 - 362	2110DBG
25-190	KEANSBURG MUA	KWD 4	402621	740739	10	280 - 340	2110DBG
25-207	KEYPORT BORO WD	KEYPORT 6	402626	741144	11	247 - 277	2110DBG
25-196	KEANSBURG MUA	KWD 3	402628	740744	12	308 - 348	2110DBG
25-208	INFERN-O-THERM	INFERN-O-1	402630	741129	15	300*	2110DBG
25-453	UNION BEACH WD	UBWD 3 1977	402632	741051	10	480 - 532	211FRNG
25-453	UNION BEACH WD	UBWD 3 1977	402632	741051	10	480 - 532	211FRNG
25-420	UNION BEACH WD	UBWD 2 1969	402634	741051	10	262 - 289	2110DBG
25-420	UNION BEACH WD	UBWD 2 1969	402634	741051	10	262 - 289	2110DBG
25-514	INT FLAVOR FRAG	IFF-2R	402641	740911	10	266 - 312	2110DBG
25-423	INT FLAVOR FRAG	IFF-1	402641	740919	10	298 - 328	2110DBG
25-568	US GEOL SURVEY	JCPL	402652	741100	10	245 - 265	2110DBG
25-565	US GEOL SURVEY	CONASCONK PT.	402704	741051	10	201 - 211	2110DBG
25-320	US ARMY	FT HANCOCK 5A	402705	735959	14	838 - 878	211FRNG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	SODIUM DIS-SOLVED (MG/L AS NA)	CHLORIDE DIS-SOLVED (MG/L AS CL)
25-111	W KEANSBURG WC	W KEANSBURG 1	10/ 1/1986	13.5	72	5.9	---	1.7
25-197	KEYPORT BORO WD	KEYPORT 7	10/ 8/1986	13.5	118	5.9	---	15
25-197	KEYPORT BORO WD	KEYPORT 7	9/ 3/1987	14.0	118	6.0	---	13
25-112	W KEANSBURG WC	W KEANSBURG 2	10/ 1/1986	14.0	73	6.1	---	1.7
25-113	HAZLET TWP BD ED	1	11/ 5/1986	13.5	68	6.7	---	1.6
25-199	KERR GLASS CO	REPLACEMENT 2	10/ 1/1986	13.5	78	6.0	---	1.9
25-466	ABERDEEN TWP WD	3-77	10/ 6/1986	14.0	68	6.2	---	---
25-191	KEANSBURG MUA	KWD 6	10/ 8/1986	13.5	272	6.3	---	59
25-190	KEANSBURG MUA	KWD 4	10/ 8/1986	13.5	800	6.3	---	290
25-207	KEYPORT BORO WD	KEYPORT 6	10/20/1986	13.0	1,970	6.7	---	560
25-196	KEANSBURG MUA	KWD 3	10/ 8/1986	13.5	77	6.2	---	2.7
25-208	INFERN-O-THERM	INFERN-O-1	10/ 9/1986	13.5	8,250	5.5	---	2,800
25-453	UNION BEACH WD	UBWD 3 1977	10/ 9/1986	14.5	82	6.4	---	2.4
25-453	UNION BEACH WD	UBWD 3 1977	9/ 3/1987	14.5	84	6.0	---	2.0
25-420	UNION BEACH WD	UBWD 2 1969	10/ 9/1986	13.5	6,750	5.8	---	2,300
25-420	UNION BEACH WD	UBWD 2 1969	9/ 3/1987	14.5	5,650	5.8	---	1,700
25-514	INT FLAVOR FRAG	IFF-2R	10/ 9/1986	13.5	72	6.3	---	1.9
25-423	INT FLAVOR FRAG	IFF-1	10/ 9/1986	13.5	67	6.2	---	1.9
25-568	US GEOL SURVEY	JCPL	10/30/1986	13.5	6,700	5.8	---	2,300
25-565	US GEOL SURVEY	CONASCONK PT.	4/23/1987	14.0	78	6.2	3.0	2.5
25-320	US ARMY	FT HANCOCK 5A	9/ 3/1987	19.5	212	7.4	---	5.0

* Total depth of well.

Aquifer unit:

2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system
211FRNG - Farrington aquifer, Potomac-Raritan-Magothy aquifer system

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MORRIS COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
27-0153	SE MORRIS CO MUA	LIDGERWOOD 5	404707	0742839	300	67.8 - 265	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
27-0153	04-21-87	11.5	398	7.3	190	42	21	11	1.3

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
27-0153	162	<1.0	142	28	23	<0.1	15	220	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
27-0153	2.8	0.010	0.30	0.020	<0.010	<10	<1	1	<1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
27-0153	<1	4	<5	<1	<0.1	6	0.6	2

Aquifer Unit

231BRCK-Brunswick Group (undifferentiated).

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
OCEAN COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
29-590	BEACH HAVEN WD	BHWD 9	393342	741431	5	552 - 630	122KRKDL
29-009	BEACH HAVEN WD	BHWD 8	393346	741430	5	572 - 656	122KRKDL
29-544	SHIP BOTTOM WD	SBWD 4	393839	741052	5	536 - 578	122KRKDL
29-111	HARVEY CDRS WD	HCWD 4	394134	740832	9	465 - 500	122KRKDL
29-613	BERKELEY WC	PINEWALL	395248	741011	45	200*	121CKKD
29-022	SHORE WATER CO	SWC 1	395422	740458	7	175 - 200	121CKKD
29-023	SHORE WATER CO	SWC 2	395423	740458	7	497 - 530	124PNPN
29-697	ARLINGTON BEACH WC	ABWC 1	395443	740500	10	76 - 86	121CKKD
29-540	SEASIDE PARK WD	SPWD 3	395452	740502	4	459 - 503	124PNPN
29-612	BERKELEY WC	BAYVILLE	395454	740906	20	90*	121CKKD
29-809	OCEAN GATE BORO WD	OGBWD 4	395527	740826	10	330 - 370	124PNPN
29-515	PINE BEACH WU	PBWU 1	395558	741013	30	135 - 197	121CKKD
29-537	SEASIDE HGTS WD	SHWD 2	395636	740439	4	400 - 430	124PNPN
29-538	SEASIDE HGTS WD	SHWD 1R	395636	740439	5	144 - 175	121CKKD
29-115	ISL HGHTS WD	IHWD 8	395639	740854	12	115 - 292	124PNPN
29-815	SEASIDE HGTS WD	SHWD 6-87	395643	740443	7	129 - 149	112CKKD
29-617	SEASIDE HGTS WD	SHWD 5	395652	740442	5	175*	121CKKD
29-058	TOMS RIVER WC	TRWC 21	395715	741231	10	46 - 56	121CKKD
29-626	TOMS RIVER WC	TRWC 30	395721	741230	0	1700 - 1875	211MRPA
29-453	LAVALLETTE WD	LWD 4	395808	740416	5	1358 - 1515	211MRPA
29-454	LAVALLETTE WD	LWD 2	395808	740421	5	1009 - 1136	211EGLS
29-100	NJ WATER CO	NORMANDY 3	395956	740344	8	1428 - 1479	211MRPA
29-504	NJ WATER CO	MANTOLOKING 7	400210	740310	5	1263 - 1368	211MRPA
29-006	NJ WATER CO	BAY HEAD 6	400405	740244	10	778 - 818	211EGLS
29-530	PT PLEASANT WD	PPWD 6	400454	740413	20	730 - 790	211EGLS
29-531	PT PLEASANT WD	PPWD 5	400454	740414	18	1256 - 1342	211MRPA
29-579	PT PLEAS BCH WD	PPBWD 11	400512	740251	5	130 - 143	121CKKD
29-807	PT PLEAS BCH WD	PPBWD 12	400536	740251	5	108 - 132	121CKKD
29-523	PT PLEAS BCH WD	PPBWD 10	400551	740243	5	87 - 130	121CKKD

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
29-590	BEACH HAVEN WD	BHWD 9	8/13/1987	17.5	68	6.4	2.7
29-009	BEACH HAVEN WD	BHWD 8	8/13/1987	17.5	67	6.3	3.2
29-544	SHIP BOTTOM WD	SBWD 4	8/13/1987	16.0	62	6.2	2.9
29-111	HARVEY CDRS WD	HCWD 4	8/13/1987	16.5	73	6.5	2.7
29-613	BERKELEY WC	PINEWALL	8/12/1987	13.5	102	4.4	11
29-022	SHORE WATER CO	SWC 1	8/11/1987	14.0	59	5.9	4.5
29-023	SHORE WATER CO	SWC 2	8/11/1987	16.5	295	8.9	0.9
29-697	ARLINGTON BEACH WC	ABWC 1	8/11/1987	14.0	109	6.6	6.5
29-540	SEASIDE PARK WD	SPWD 3	8/11/1987	16.0	240	8.7	1.0
29-612	BERKELEY WC	BAYVILLE	8/12/1987	12.5	56	5.1	5.3
29-809	OCEAN GATE BORO WD	OGBWD 4	8/12/1987	13.5	173	7.5	2.9
29-515	PINE BEACH WU	PBWU 1	8/12/1987	12.0	71	4.6	7.6
29-537	SEASIDE HGTS WD	SHWD 2	8/11/1987	15.5	230	8.6	1.7
29-538	SEASIDE HGTS WD	SHWD 1R	8/11/1987	14.0	555	6.2	130
29-115	ISL HGHTS WD	IHWD 8	8/11/1987	14.0	80	6.2	5.4
29-815	SEASIDE HGTS WD	SHWD 6-87	8/11/1987	13.5	1,515	5.8	470
29-617	SEASIDE HGTS WD	SHWD 5	8/11/1987	14.0	103	5.9	11
29-058	TOMS RIVER WC	TRWC 21	8/12/1987	13.5	165	5.6	23
29-626	TOMS RIVER WC	TRWC 30	8/12/1987	26.5	122	7.4	0.8
29-453	LAVALLETTE WD	LWD 4	8/10/1987	24.0	192	7.6	0.9
29-454	LAVALLETTE WD	LWD 2	8/10/1987	20.5	420	8.5	2.8
29-100	NJ WATER CO	NORMANDY 3	8/10/1987	24.5	175	7.4	0.8
29-504	NJ WATER CO	MANTOLOKING 7	8/10/1987	25.0	167	7.4	0.8
29-006	NJ WATER CO	BAY HEAD 6	8/10/1987	21.0	210	8.1	0.9
29-530	PT PLEASANT WD	PPWD 6	8/10/1987	20.5	197	8.1	0.7
29-531	PT PLEASANT WD	PPWD 5	8/10/1987	24.5	149	7.0	0.9
29-579	PT PLEAS BCH WD	PPBWD 11	8/10/1987	14.5	1,000	6.4	320
29-807	PT PLEAS BCH WD	PPBWD 12	8/10/1987	14.5	1,040	6.6	320
29-523	PT PLEAS BCH WD	PPBWD 10	8/10/1987	14.5	799	6.5	220

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
122KRKDL- Atlantic City 800-foot sand of the Kirkwood Formation
124PNPN - Piney Point aquifer
211EGLS - Englishtown aquifer
211MRPA - Potomac-Raritan-Magothy aquifer system

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PASSAIC COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
31-0035	PREAKNESS HILLS CNTRY CLUB	TOWER 2	405655	0741403	290	40 - 561	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
31-0035	09-14-87	13.0	385	7.6	160	41	15	12	0.8

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
31-0035	106	<1.0	88	60	16	0.2	23	220	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
31-0035	1.1	<0.010	<0.20	0.050	0.040	<10	2	<1	2

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DI-CHLOROBROMOMETHANE TOTAL (UG/L)
31-0035	<1	9	<5	2	<0.1	11	0.7	2	<0.20

NJ-WRD WELL NUMBER	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)
31-0035	<0.20	<0.20	<0.20	<0.20	1.3	<0.20	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)
31-0035	<0.20	<0.20	<0.20	<0.20	0.30	0.40	<0.20	<0.20	<0.20

NJ-WRD WELL NUMBER	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHYLENE TOTAL (UG/L)	1,3-DICHLOROPROPANE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)
31-0035	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PASSAIC COUNTY

NJ-WRD WELL NUMBER	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)
31-0035	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2

Aquifer Unit

231BRCK-Brunswick Group (undifferentiated).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SOMERSET COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
35-0011	WILSON PRODUCTS	WILSON 3	403021	0744343	85	60 - 480	231BRCK
35-0024	SOUTH BRANCH REF. CH	PARSONAGE 1	403239	0744147	60	60 - 150	231BRCK
35-0034	SOMERSET CO PARK COMM	WARREN BROOK-1965	403655	0742941	280	50 - 130	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
35-0011	07-21-87	13.5	400	7.7	190	45	19	13	0.70
35-0024	07-22-87	13.5	379	7.8	180	43	17	12	1.0
35-0034	05-06-87	10.5	380	7.2	120	30	10	25	1.8

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
35-0011	193	<1.0	158	32	15	0.1	22	240	<0.010
35-0024	160	<1.0	132	19	13	0.1	16	200	<0.010
35-0034	57	<1.0	47	29	50	<0.1	13	190	0.020

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
35-0011	0.33	<0.010	0.30	0.300	<0.010	<10	19	<1	<1
35-0024	5.3	<0.010	0.70	0.050	0.030	<10	3	<1	<1
35-0034	0.77	0.080	0.70	0.010	0.010	4	<1	<1	<1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
35-0011	<1	<3	<5	<1	0.3	21	1.5	2
35-0024	6	<3	<5	<1	0.3	16	1.4	2
35-0034	6	34	<5	380	<0.1	150	3.1	2

Aquifer Unit

231BRCK-Brunswick Group (undifferentiated).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

UNION COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
39-0385	COMMONWEALTH WC	BALUSTROL 17	404201	0742136	295	97.8 - 371	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
39-0385	07-29-87	11.0	297	6.7	120	37	7.8	10	0.8

NJ-WRD WELL NUMBER	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
39-0385	98	<1.0	79	18	27	0.1	30	180	<0.010

NJ-WRD WELL NUMBER	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
39-0385	0.34	<0.010	0.50	0.090	0.060	<10	<1	<1	<1

NJ-WRD WELL NUMBER	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
39-0385	3	<3	<5	<1	0.3	8	2.1	<1

Aquifer Unit

231BRCK-Brunswick Group (undifferentiated).

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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West Trenton, N J 08628

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